BLACK

H.264 4/8/10/16-Channel High-Definition DVR User Manual

Products: BLK-HD4E, BLK-HD4D, BLK-HD8D, BLK-HD10D, BLK-HD16D

BLK-HD4E (4 channels)

BLK-HD4D (4 channels) and BLK-HD8D (8 channels)(upper)
BLK-HD10D (10-channel hybrid) and BLK-HD16D (16 channels)

PLEASE READ THIS MANUAL BEFORE USING YOUR RECORDER, and always follow the instructions for safety and proper use. Save this manual for future reference.

BLK-HD4E, BLK-HDxxD_RM
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Operate this system only in environments where the temperature and humidity is within the recommended range. Operation in temperatures or at humidity levels outside the recommended range may cause electric shock and shorten the life of the product. Refer to the specifications for each system component for more information.

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SECTION 1
Introduction

Features

- H.264 Video compression
- HDcctv/HD-SDI compatible
- HDMI 1080p video output
- Bi-directional audio over network via Network Client Software, Web-Viewer, CMS, and Mobile Viewer
- Individual channel operation
- Motion detection
- Graphic user interface
- Software upgradable via USB flash drive or network software.
- Backup via USB flash drive, network or DVD-RW
- Exclusive file format and AVI backup
- Time stamp over AVI backup data for court evidence
- S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology for HDD)
- Automatic video input and video loss detection
- Covert camera operation (provides enhanced security)
- Built-in PTZ camera control
- Network access via network client software, web viewer, CMS, and mobile viewer

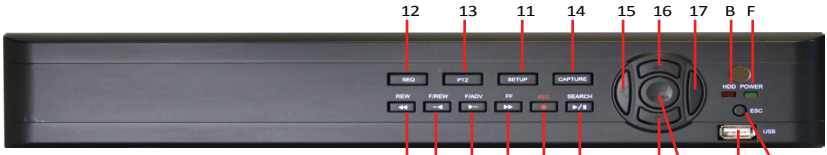
Your DVR includes:

- DVR (DVD-R/W drive and hard disk drive (HDD) optional)
- Mounting screws, grommets, SATA data cables for HDDs (if HDDs are not installed)
- Mounting screws and SATA data cable for DVD-R/W (if DVD-R/W is not installed)
- Software CD containing the Single (Remote) Client, Multi Client, and the DVR user manual (this document)
- Remote control
- Battery 1.5V (2 x AAA)
- Power cables (12 Vdc, 5 A adapter for BLK-HD4D, BLK-HD8D only)
- Rack mount brackets (BLK-HD10D, BLK-HD16D only)
- Mouse
- Quick start guide document

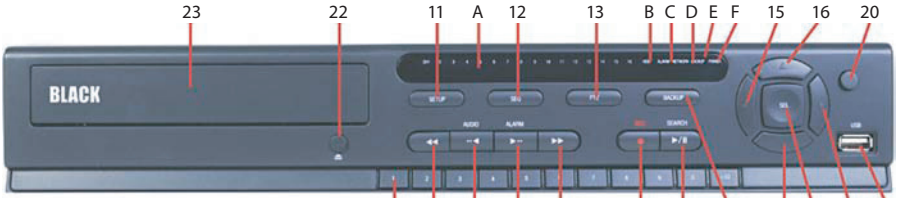
SECTION 2
Hardware Overview and Setup

2.1 BLK-HD4E, BLKHD4D, BLK-HD8D external features

2.1.1 Front panel indicators and controls



BLK-HD4E (4 channels)



BLK-HD4D, BLK-HD8D

Table 1. Front Panel LED Indicators

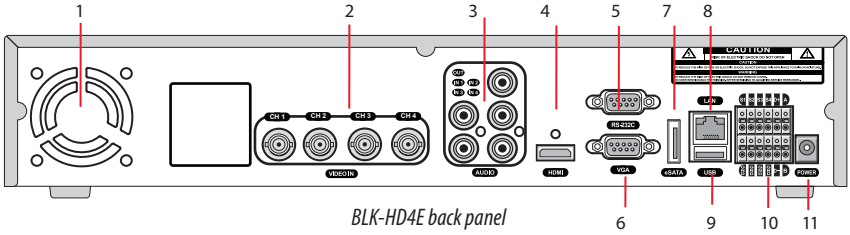
No.	Name	Description
A	CH1~4, 8	Indicates that the channel is being recorded.
B	HDD	Indicates that the system is accessing the hard disk.
C	ALARM	Indicates when a sensor is triggered or motion is detected.
D	NETWORK	Indicates that a network client is connected.
E	BACKUP	Indicates that a USB or DVD-R/W storage device is storing images or video.
F	POWER	Indicates that the system is switched on.

Table 2. Front panel buttons

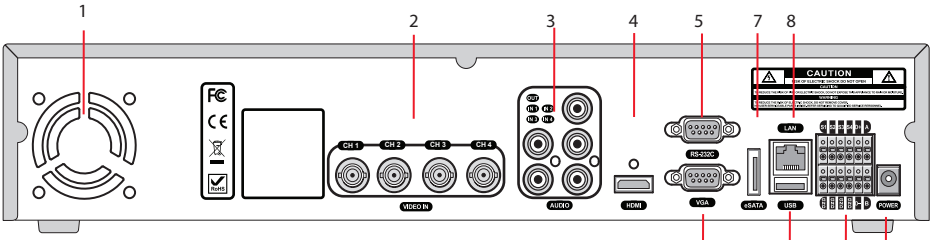
No.	Name	Description
1		Channel keys. For channel 10, press the 0 key. For channel 11, press the +10 and 1 key. For channel 16, press the +10 and 6 key.
2		Press to rewind the video in playback mode.

No.	Name	Description
3	AUDIO ··◀	Press to select audio mode such as SINGLE (highlighted channel), MIX (combine all channels), or MUTE (all channels).
4	AUDIO ··◀	Jump/step backward. In playback mode, the playback position moves 60 seconds backward.
5	▶▶	Press to fast forward the footage in playback mode.
6	ALARM ▶··	Press to enable/disable ALARM operation.
7	ALARM ▶··	Jump/Step forward. In playback mode, the playback position moves 60 seconds forward.
8	REC ●	Press to start or stop manual recording.
9	SEARCH ▶/II	Press to open the SEARCH menu in live display mode.
10	SEARCH ▶/II	Press to play/pause the recording in playback mode.
11	SETUP	Press to enter SETUP menu.
12	SEQ	Enable/disable the automatic sequence display of channels in full screen, quad-split, and 9-split display mode.
13	PTZ	Press to control Pan/Tilt/Zoom operations.
14	BACKUP	Press to capture live or playback mode video in JPEG format.
15	◀ (LEFT)	Press to move left or to change the values in Setup mode. When entering a password, it inserts a 4.
16	▲ (UP)	Press to move up the menu in Setup mode. When entering a password, it inserts a 1.
17	▶ (RIGHT)	Press to move right or to change the values in Setup mode. When entering a password, it inserts a 2.
18	▼ (DOWN)	Press to move down the menu in Setup mode. When entering a password, it inserts a 3.
19	SEL	Press to select desired menu item or to store the setup value.
20	ESC	Press for temporary storage of the changed value or to return to the previous menu screen.
21	USB Port	Use with a USB flash drive to archive still images and videos, and upgrade firmware, or use to connect a USB mouse to the DVR.
22	⏏	To open and close the insert tray, press the button
23	DVD Drive	To save video, insert a CD-R/DVD-R

2.1.2 BLK-HD4E, BLK-HD4D back panel connectors



BLK-HD4E back panel



BLK-HD4D back panel

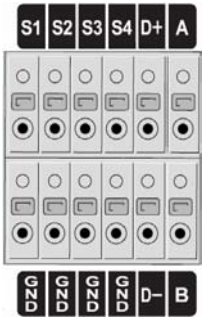
Table 3. BLK-HD4E, BLK-HD4D back panel connectors

No.	Name	Description
1	Fan	Airflow outlet
2	HDCCTV / 1.0 INPUTS	HD-SDI video inputs
3	AUDIO IN AUDIO OUT	4 RCA connectors for audio input 1 RCA connector for audio output
4	HDMI	HDMI video out.
5	RS-232 interface	Used for testing only.
6	VGA	Connector for a VGA monitor.
7	eSATA port	Connector for external storage
8	ETHERNET	RJ-45 connector for LAN connection.
9	USB	Use with a USB flash drive to archive still images and videos, and upgrade firmware, or use to connect a USB mouse to the DVR
10	RS-485, sensor and alarm terminations	RS-485 PTZ camera control terminals. See description below.
11	POWER SOCKET	Connect DC12V 5A power adaptor

BLK-HD4D RS485 sensor and alarm termination block

Use the back panel termination block to connect sensor, RS-485, and alarm out cables.

Termination block pin definitions:



S1, GND: Sensor 1 input

S2, GND: Sensor 2 input

S3, GND: Sensor 3 input

S4, GND: Sensor 4 input

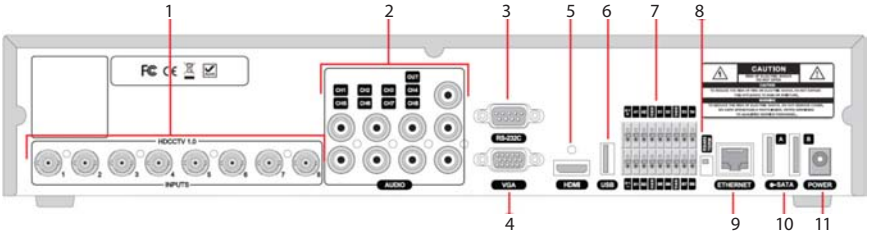
D+, D-: RS-485A and RS-485Bt

A, B: Alarm output

NOTE **S1 - S4** *sensor inputs can be normally open (N.O.) or normally closed (N.C.). To configure the sensor type, go to* ***SETUP -> Device -> Sensor: Type***.

NOTE **A - B** *(alarm out) can be triggered by any single of combination of sensors and motion on or video loss in up to four camera channels. To configure alarm causing conditions, go to:* ***SETUP -> Device -> Alarm Out***.

2.1.3 BLK-HD8D back panel connectors



BLK-HD8D back panel

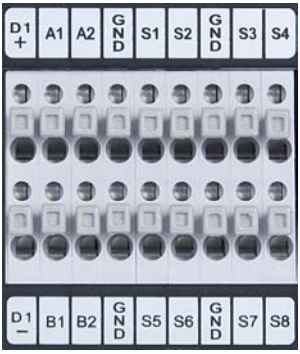
Table 4. BLK-HD8D back panel connectors

No.	Name	Description
1	**HDCCTV 1.0 1 - 8 Inputs**	HD-SDI input
2	**AUDIO IN AUDIO OUT**	8 RCA connectors for audio input 1 RCA connector for audio output
3	**RS-232 interface**	Used for testing only.
4	**VGA**	Connector for a VGA monitor.
5	**HDMI**	HDMI video out.
6	**USB**	Use with a USB flash drive to archive still images and videos, and upgrade firmware, or use to connect a USB mouse to the DVR
7	**Sensor / alarm terminations**	See description below.
8	**RS-485**	RS-485 PTZ camera control terminals
9	**ETHERNET**	RJ-45 connector for LAN connection.
10	**eSATA port**	Connector for external storage
11	**POWER SOCKET**	Connect DC12V 5A power adaptor

BLK-HD8D sensor and alarm termination block

Use the back panel termination block to connect sensor (8), RS-485 (1), and alarm out (2) cables.

Termination block pin definitions:



S1, GND: Sensor 1 input

S2, GND: Sensor 2 input

S3, GND: Sensor 3 input

S4, GND: Sensor 4 input

D+, D-: RS-485A and RS-485Bt

A1 + B1, A2 + B2: Alarm outputs

2.2 BLK-HD10D, BLK-HD16D external features

2.2.1 BLK-HD10D, BLK-HD16D front panel indicators and controls

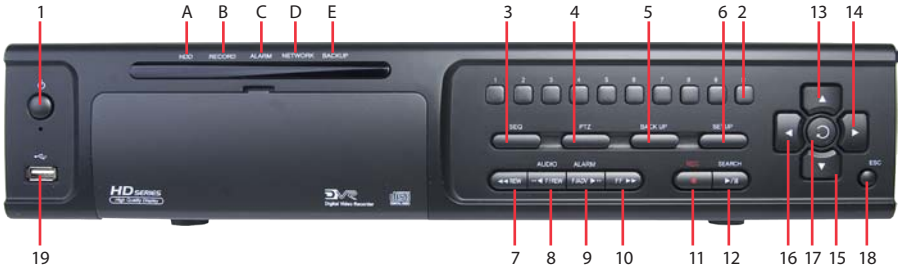


Table 5. Front panel LED indicators

No.	Name	Description
A	**HDD**	Indicates that the system is accessing the hard disk.
B	**RECORD**	Indicates that the system is recording video.
C	**ALARM**	Indicates when a sensor is triggered or motion is detected.
D	**NETWORK**	Indicates that a network client is connected.
E	**BACKUP**	Indicates that a USB or DVD-R/W storage device is storing images or video.

Table 6. Front panel buttons

No.	Name	Description
1	**POWER**	Power ON/OFF
2	**NUMBER**	Channel select keys. For channel "10", press the "0" key. For channel "11", press the "+10" key and the "1" key. For channel "16", press the "+10" key and the "6" key.
3	**SEQ**	Enable/disable the automatic display of channels in full screen, quad, and 9-split screen mode.
4	**PTZ**	Press to control pan/tilt/zoom operations.
5	**SETUP**	Press to open the SETUP menu.
6	**BACKUP**	Press to capture video in jpeg format during display during live or playback mode.
7	**REW**	Press to rewind in playback mode.
8	**F/REV**	Jump/step backwards. In playback mode, the jump moves 60 seconds back.
9	**F/ADV**	Jump/step forwards. In playback mode, the jump moves 60 seconds forward.
10	**FF**	Press to fast forward in playback mode.

No.	Name	Description
11	**REC**	Press to start or stop manual recording.
12	**SEARCH** **PLAY/PAUSE**	During LIVE display mode, press to open the SEARCH menu. During PLAYBACK mode, press to play or pause.
13	▲ (UP)	Press to move up the menu in SETUP mode. When entering a password, it inserts a 1.
14	▶ (RIGHT)	Press to move right or to change the values in SETUP mode. When entering a password, it inserts a 2.
15	▼ (DOWN)	Press to move down the menu in Setup mode. When entering a password, it inserts a 3.
16	◀ (LEFT)	Press to move left or to change the values in Setup mode. When entering a password, it inserts a 4.
17	**SEL**	Press to select the highlighted menu item or store the setup value.
18	**ESC**	Press for temporary storage of the changed value or to return to the previous menu screen.
19	**USB Port**	Use with a USB flash drive to archive still images and videos and upgrade firmware, or use to connect a USB mouse to the DVR.

2.2.2 BLK-HD10D back panel connectors

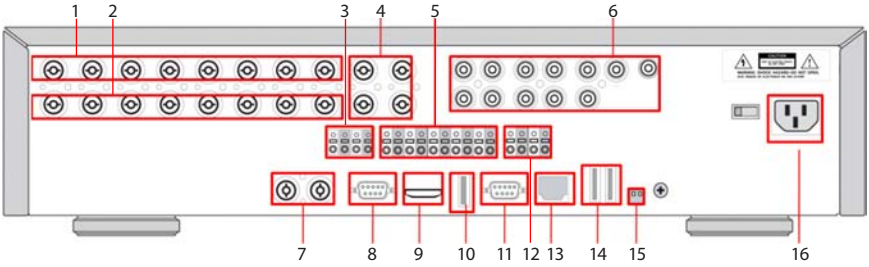


Table 7. BLK-HD10D back panel connectors

No.	Name	Description
1	**VIDEO IN**	8 BNC connectors for composite video input (NTSC/PAL) Channels 1 - 8.
2	**LOOP**	8 BNC connectors for video output (loop back).
3	**RS-485**	1st and 2nd ports for RS-485 network (camera and controller)
4	**SPOT**	4 composite video outputs for spot monitoring.
5	**SENSOR IN**	8 terminations for sensor device connection
6	**AUDIO IN** **AUDIO OUT**	8 connectors for audio input (channels 1 - 10) 1 connector for audio output
7	**VIDEO IN**	2 HD-SDI connectors for video input (channels 9. 10).
8	**VGA**	Connector for a VGA monitor.

No.	Name	Description
9	**HDMI OUT**	Main video out (1280 x 720p)
10	**USB**	Use with a mouse or for backup.
11	**RS-232**	Not used at this time.
12	**ALARM OUT**	2 terminations for alarm device connection. Provides simple on/off switching with a relay (0.5 A / 125 Vac, 1 A / 30 Vac)
13	**ETHERNET**	RJ-45 connector for LAN connection.
14	**eSATA port**	2 eSATA ports for archive of still images or video to an external HDD. Connector for external storage
15	**RS-485**	RS-485 A and B network termination switches ON/OFF
16	**POWER SOCKET**	Connect 110 ~ 250 Vac power.

RS-485, Sensor in, Alarm out terminations

Two RS-485 networks can be attached to the backpanel. Network termination can be applied independently to each input. See item 15 in "BLK-HD4D RS485 sensor and alarm termination block" on page 5 above.

10 sensor input and 4 alarm output terminations are provide on the backpanel. Sensors can be normally open (NO) or normally closed (NC). Alarms provide using simple On/Off switching through a relay; output is rated at: 0.5 A /125 Vac, 1 A / 30 Vac.

BLK-HD10D RS-485, sensor input and alarm output terminations

2.2.3 BLK-HD16D back panel connectors

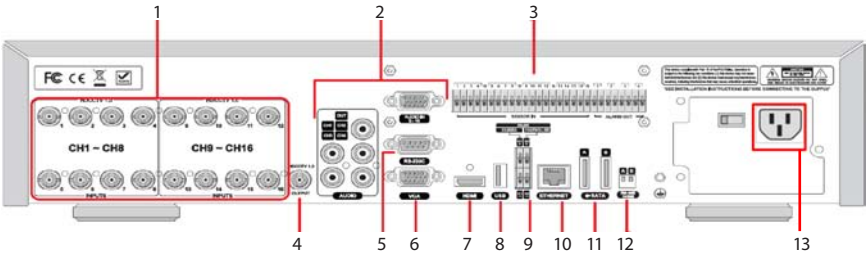


Table 8. BLK-HD16D back panel connectors

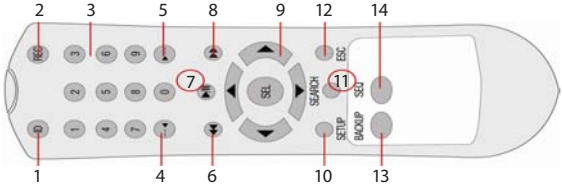
No.	Name	Description
1	**VIDEO IN**	HDCCTV 1.0 video input. Channels 1 - 8, 9 - 16.
2	**AUDIO IN** **AUDIO OUT**	Audio input. Channels 1 - 4, 5 - 16 1 channel audio out.
3	**SENSOR IN**	Sensor in terminations.
4	**VIDEO OUT**	HDCCTV 1.0 video output.
5	**RS-232C**	For testing only.
6	**VGA**	Connector for a VGA monitor.
7	**HDMI**	HDMI video out.
8	**USB**	
9	**RS-485**	RS-485 termination for PTZ camera control.
10	**ETHERNET**	RJ-45 connector for LAN connection.
11	**eSATA port**	Connector for external storage
12	**RS-485**	RS-485 A and B network termination switches ON/OFF
13	**POWER SOCKET**	Connect 110 ~ 250 Vac power.

Sensor in, Alarm out terminations

16 sensor input and 4 alarm output terminations are provided on the backpanel. Sensors can be normally open (NO) or normally closed (NC). Alarms provide using simple On/Off switching through a relay; output is rated at: 0.5 A /125 Vac, 1 A / 30 Vac.

BLK-HD16D sensor input and alarm output terminations

2.3 Remote Control



Typical Remote Control

NOTE *The remote control provided with your DVR may appear different from the one shown above. However, the buttons function as described in the table below.*

Table 9. Remote Control Button Functions

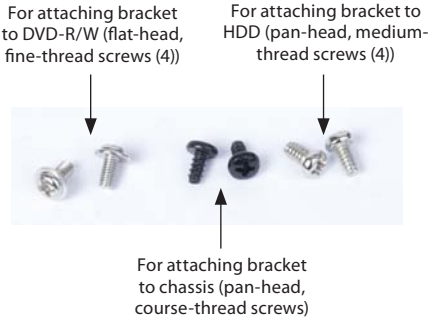
No.	Name	Function
1	**ID**	When a remote control ID number is setup in DVR, press this button before the number.
2	**REC**	To start and stop manual recording.
3	**0 .. 9**	To select channel (1, 2, 3, ..) or to enter a DVR ID number.
4	**F/REW**	During Playback – To move the playback position 60 seconds back. During Pause – To move the playback position 1 frame back.
5	**F/ADV**	During Playback – To move the playback position 60 seconds forward. During Pause – To move the playback position moves 1 frame forward.
6	**REW**	To rewind the recording. Press again to increase the rewind speed.
7	**PLAY/PAUSE**	To play or to pause the recording in playback mode.
8	**FF**	To fast forward the recording. Press again to increase the fast forward speed.
9	**Direction Buttons**	Press to move to menu items or select a channel.
10	**SETUP**	To open the SETUP menu.
11	**SEARCH**	To go to the SEARCH menu.
12	**ESC**	During setup – To return to the previous menu screen. During playback – To exit playback mode System lock – To lock a system when pressing **ESC** button for 5 seconds. System unlock – To unlock a system when pressing **ESC** button for 5 seconds.
13	**BACKUP**	To start a backup operations in live or playback mode.
14	**SEQ**	To start auto sequencing the screen in full screen mode. (Toggle)

2.4 DVD-R/W Optical drive installation

2.4.1 BLK-HD4D, BLK-HD8D DVD-R/W installation

If your DVR does not include an internal DVD-R/W drive, use the following procedure to install one. The DVD-R/W can be used to archive stored data including video clips and snapshots. Your DVR will accommodate one standard-size desktop system DVD-R/W drive with a serial-ATA (SATA) interface. If your DVR was purchased without a DVD-R/W drive or HDD drive, a hardware kit, including mounting brackets, screws and cables is included with the DVR.

Mounting brackets (one pair per drive)


For attaching bracket to DVD-R/W (flat-head, fine-thread screws (4))
For attaching bracket to HDD (pan-head, medium-thread screws (4))
For attaching bracket to chassis (pan-head, course-thread screws)

Screw types

To install a DVD-RW drive, carefully follow the procedure below.

CAUTION

Follow recommended electrostatic discharge (ESD) guidelines while performing this procedure. Install the DVD-R/W drive in a static-free environment, wearing a certified ESD wrist strap. If a static free environment and ESD wrist strap is not available, touch the bare metal of the DVR chassis frequently when installing the drive to dissipate the static charge naturally generated on your skin and clothing.

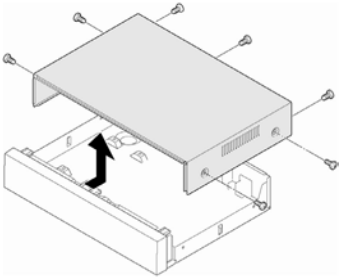
1. If your DVR is powered on, use the menu system to perform a System Shutdown.

    a. Right click anywhere on the live view screen, then click **SYSTEM SHUTDOWN** in the pop-up menu (see "3.1 Starting the system for the first time" on page 28), or click the SYSTEM SHUTDOWN icon on the taskbar.

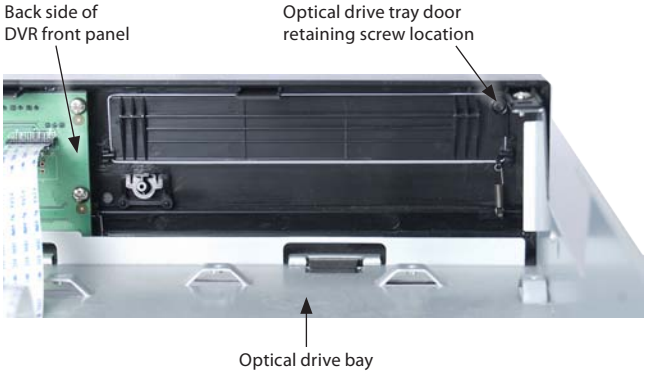
    b. Follow the on-screen instructions for shutting down the system.

2. Disconnect the power adapter from the back of the DVR.

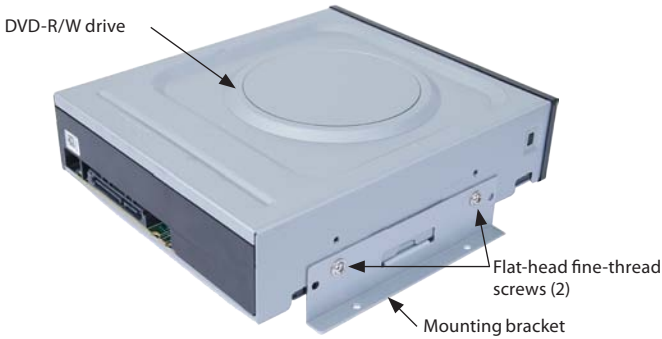
3. Remove the top cover from the DVR by removing the three cover screws on the back of the chassis, and the two on each side. See the drawing below.



4. Remove the optical drive tray door retaining screw from the inside of the DVR front panel. See the picture below. Use a #1 Phillips screwdriver.

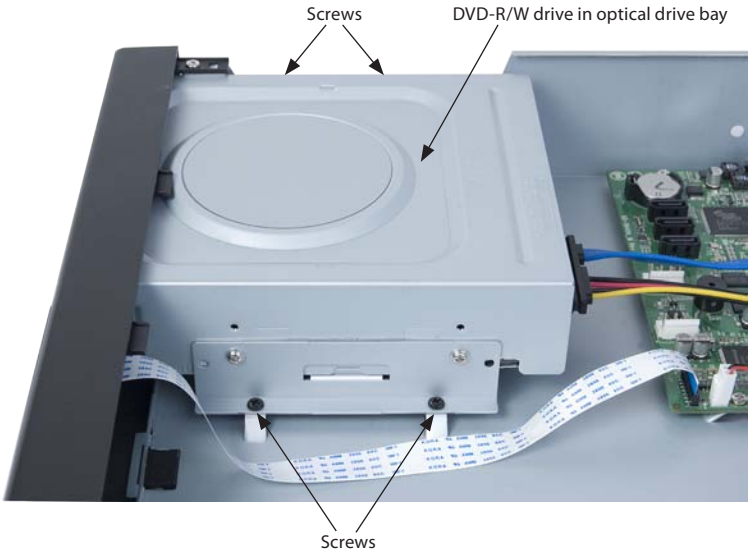


5. Attach a mounting bracket to each side of the DVD-R/W drive as shown below using the flat-head fine thread screws provided. Use two screws for each bracket. Tighten the screws until snug.

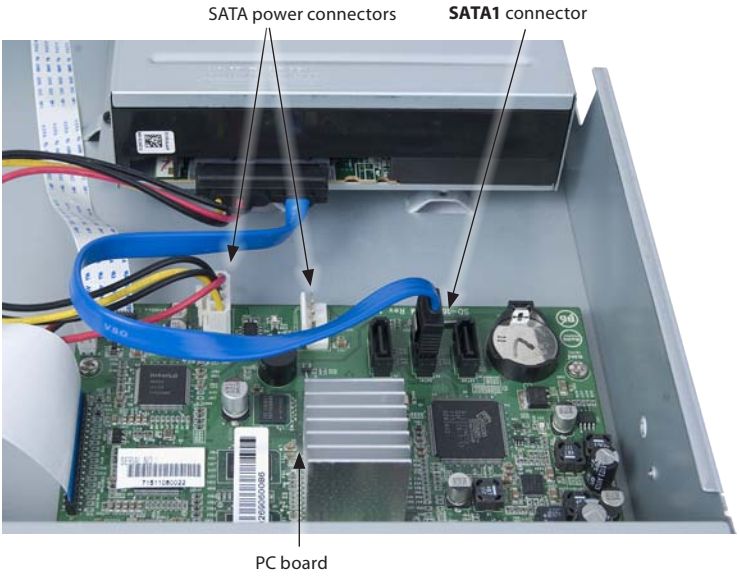


6. Plug a SATA data and power cable assembly into the mating connectors on the back of the DVD-R/W drive. Ensure the connector is fully seated.

7. Position the DVD-R/W drive in the optical drive bay as shown below. Secure the drive to the chassis with four screws through the mounting brackets, two on each side. Use black pan-head course-thread screws provided. Tighten the screws until snug.



8. Plug the SATA data cable (blue cable) into the **SATA1** connector on the PC board, then plug the SATA power cable into one of the SATA power connectors on the PC board.



Ensure that the data and power cable connectors are fully seated onto the connectors on the PC board.

9. Reinstall the DVR cover using the 7 screws removed earlier.

10. Reattach the power adapter to the back of the DVR.

2.4.2 BLK-HD10D, BLK-HD16D DVD-R/W installation

If your DVR does not include an internal DVD-R/W drive, use the following procedure to install one. The DVD-R/W can be used to archive stored data including video clips and snapshots. Your DVR will accommodate one standard-size desktop system DVD-R/W drive with a serial-ATA (SATA) interface. If your DVR was purchased without a DVD-R/W drive or HDD drive, a hardware kit, including screws and cables, and a mounting bracket is included with the DVR. To install a DVD-RW drive, carefully follow the procedure below.

CAUTION

Follow recommended electrostatic discharge (ESD) guidelines while performing this procedure. Install the DVD-R/W drive in a static-free environment, wearing a certified ESD wrist strap. If a static free environment and ESD wrist strap is not available, touch the bare metal of the DVR chassis frequently when installing the drive to dissipate the static charge naturally generated on your skin and clothing.

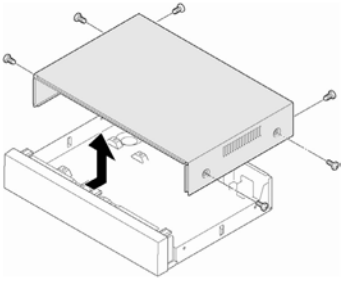
1. If your DVR is powered on, use the menu system to perform a System Shutdown.

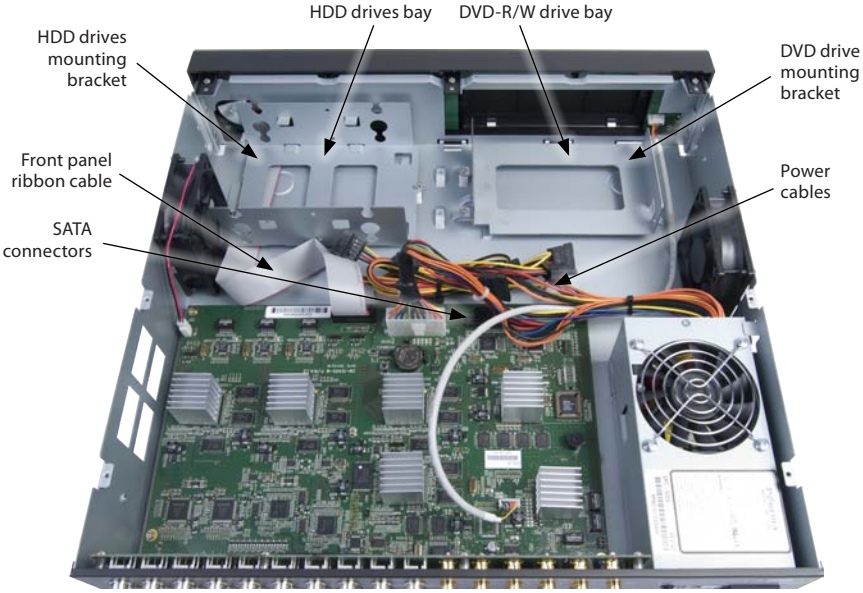
a. Right click anywhere on the live view screen, then click **SYSTEM SHUTDOWN** in the pop-up menu (see "3.1 Starting the system for the first time" on page 28), or click the SYSTEM SHUTDOWN icon on the taskbar.

b. Follow the on-screen instructions for shutting down the system.

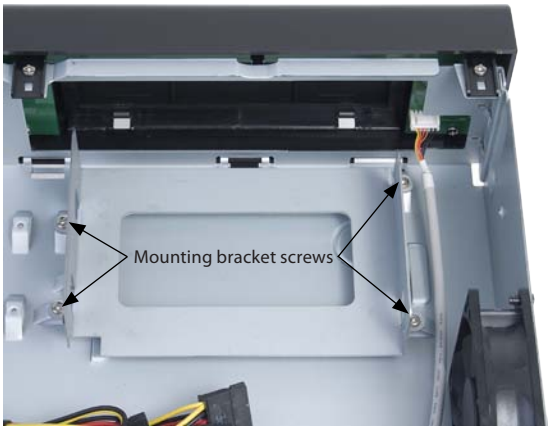
2. Disconnect the power cord from the back of the DVR.

3. Remove the top cover from the DVR by removing the two cover screws on the back of the chassis, and the two on each side. See the drawing below.

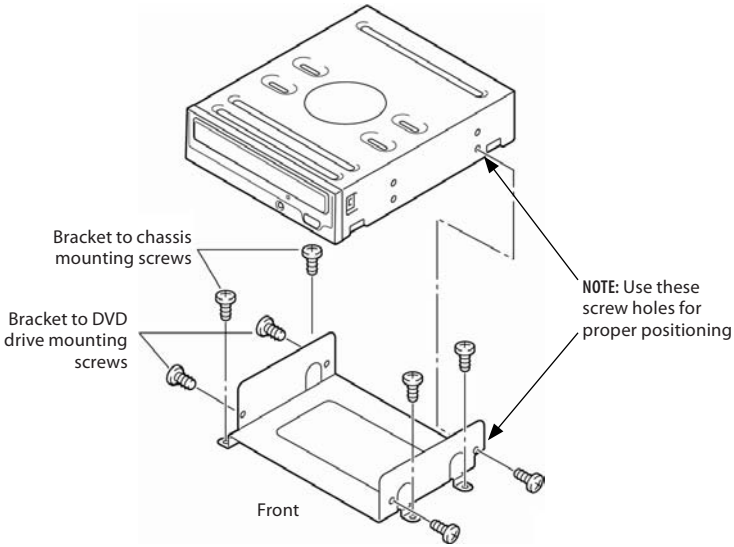




4. Remove the DVD-R/W mounting bracket from the DVD-R/W drive bay by removing the four screws that secure it to the chassis. Note that the bracket mounting screws near the side of the chassis are spaced further apart than the screws near the middle of the chassis.



5. Secure the DVD-R/W drive to the mounting bracket using four screws, two on each side, provided in the hardware kit. Orient the drive so it will point to the front of the DVR, and it is positioned properly in the mounting bracket (see the **NOTE** in the illustration below).


Bracket to chassis mounting screws
Bracket to DVD drive mounting screws
NOTE: Use these screw holes for proper positioning
Front

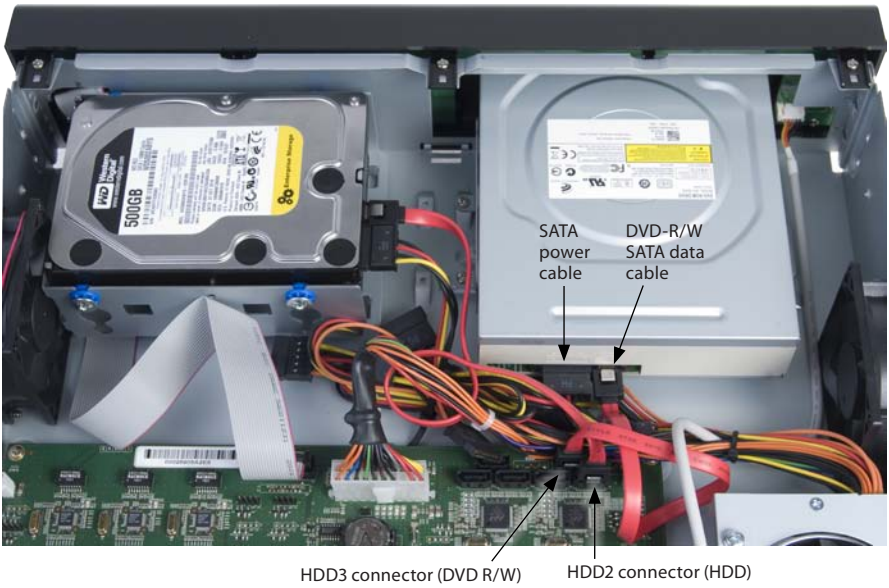
6. Reinstall the DVD mounting bracket with the DVD drive in the chassis using the four screws removed earlier.

7. Plug a SATA power cable from the cable bundle into the mating connector of the DVD drive.

8. Plug a SATA data cable to the back of the DVD drive. Plug the other end of the cable into a SATA connector on the PC board.

NOTE *SATA data interfaces on the PC board are labeled HDD1, HDD2, HDD3, etc. Not all are connectorized. Always use the lowest numbered connectorized SATA data interfaces for the HDD drives in the DVR, and a higher numbered connector for the DVD drive. For example, if HDD1 is* **not** *connectorized, but HDD2, HDD3 and HDD4 are, and two HDD drives are (or will be) installed in the DVR, use HDD2 for the primary HDD drive, HDD3 for the secondary HDD drive, and HDD4 for the DVD-R/W drive. Connector labels are marked on the PC board.*

In the following example, HDD1 is not connectorized, an HDD drive data cable is plugged into HDD2, and the DVD-R/W drive data cable is plugged into HDD3.



9. If you are installing HDD(s) in the DVR at this time, continue with "2.5.4 BLK-HD10D, BLK-HD16D HDD installation" on page 24. Otherwise, go to "SECTION 3 System Setup" on page 28.

2.5 HDD installation

When choosing an HDD to install, select one from the list provided in "APPENDIX A DVR Compatible Hard Disk Drives" on page 113 to ensure the best performance

2.5.1 HDD recording capacities

Interpolate the information provided in the tables below to estimate the recording capacity of your HDD and determine what capacity of HDD will meet your recording requirements.

If installing more than one HDD in your DVR, each must be the of same brand and model. Otherwise, an HDD may not be recognized by the DVR and can malfunction.

Recording mode: 4-channels, continuous, 1280 x 720 @ 30 fps, audio on

HDD Capacity	Level 5 (high)		Level 4		Level 3		Level 2		Level 1 (low)	
	days	hours	days	hours	days	hours	days	hours	days	hours
250GB	0	22	1	3	1	12	1	20	2	6
320GB	1	5	1	12	2	0	2	9	3	23
500GB	1	22	2	10	3	5	3	20	4	18
1TB	4	23	5	23	6	14	7	21	9	18
1.5TB	6	0	7	12	10	22	11	21	14	18
2TB	8	1	10	1	13	7	15	22	19	18

Recording mode: 4-channels, continuous, 640 x 360 @ 30 fps, audio on

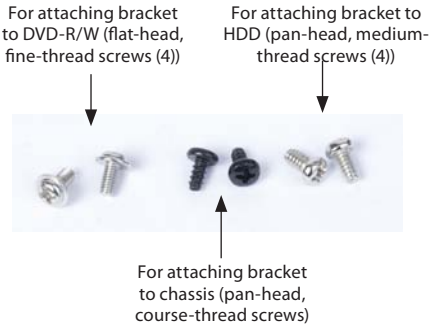
HDD Capacity	Level 5 (high)		Level 4		Level 3		Level 2		Level 1 (low)	
	days	hours	days	hours	days	hours	days	hours	days	hours
250GB	1	20	2	7	3	1	3	16	4	13
320GB	2	10	3	0	4	0	4	19	6	23
500GB	3	21	4	20	6	10	7	16	9	13
1TB	8	23	9	22	13	4	15	17	19	13
1.5TB	12	1	15	0	19	21	23	19	29	13
2TB	16	2	20	2	26	15	31	20	39	13

2.5.2 BLK-HD4D, BLK-HD8D HDD installation

The HDD is used to store video and snapshots recorded by the DVR. Normally, DVRs have one internal HDD and one internal DVD-R/W drive. However, a second internal HDD can be installed in place of the DVD drive, if needed.

Your DVR will accommodate one standard-size desktop system HDD with a SATA interface. If your DVR was purchased without an HDD, a hardware kit, including mounting brackets, screws and cables is included with the DVR.

Mounting Brackets (one pair per drive)


For attaching bracket to DVD-R/W (flat-head, fine-thread screws (4))
For attaching bracket to HDD (pan-head, medium-thread screws (4))
For attaching bracket to chassis (pan-head, course-thread screws)

Screw types

To install an HDD, carefully follow the procedure below.

CAUTION

Follow recommended electrostatic discharge (ESD) guidelines while performing this procedure. Install the HDD in a static-free environment, wearing a certified ESD wrist strap. If a static free environment and ESD wrist strap is not available, touch the bare metal of the DVR chassis frequently when installing the drive to dissipate the static charge naturally generated on your skin and clothing.

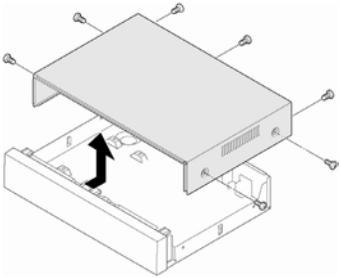
1. If your DVR is powered on, use the menu system to perform a System Shutdown.

   a. Right click anywhere on the live view screen, then click **SYSTEM SHUTDOWN** in the pop-up menu (see "SECTION 3 System Setup" on page 28), or click the SYSTEM SHUTDOWN icon on the task bar.

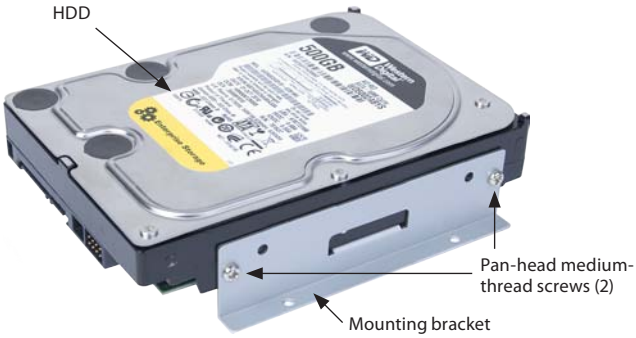
   b. Follow the on-screen instructions for shutting down the system.

2. Disconnect the power adapter from the back of the DVR.

3. Remove the top cover from the DVR by removing the three cover screws on the back of the chassis, and the two on each side. See the drawing below.

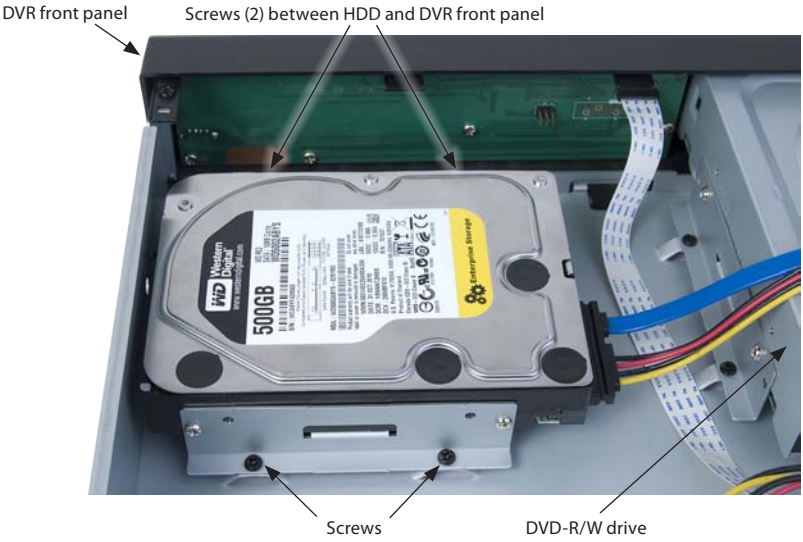


4. Attach a mounting bracket to each side of the HDD as shown below using the pan-head medium- thread screws provided. Use two screws for each bracket. Tighten the screws until snug.

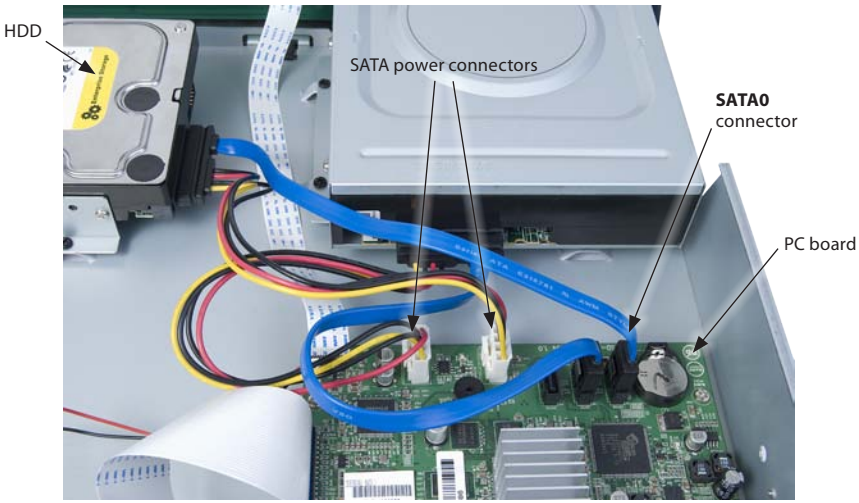


5. Plug a SATA data and power cable assembly into the mating connectors on the back of the HDD. Ensure the connector is fully seated.

6. Position the HDD into the HDD bay as shown below. Secure the drive to the chassis with four screws through the mounting brackets, two on each side of the HDD. Use black pan-head course-thread screws provided. Tighten the screws until snug.



7. Plug the SATA data cable (blue cable) into the **SATA0** connector on the PC board, then plug the SATA power cable into one of the SATA power connectors on the PC board.



Ensure that the data and power cable connectors are fully seated onto the connectors on the PC board.

8. Reinstall the DVR cover using the 7 screws removed earlier.

9. Reattach the power adapter to the back of the DVR.

2.5.3 BLK-HD4D, BLK-HD8D Installing a 2nd internal HDD

The DVR can include two internal HDDs, with the second HDD installed in the DVD-R/W (optical) drive bay. To install a 2nd HDD, do the following.

CAUTION

If installing 2 HDDs into your DVR, always install HDDs of the same brand and model. If you install different HDDs, the DVR may not recognize an HDD and can malfunction.

CAUTION

Follow recommended electrostatic discharge (ESD) guidelines while performing this procedure. Install the HDD in a static-free environment, wearing a certified ESD wrist strap. If a static free environment and ESD wrist strap is not available, touch the bare metal of the DVR chassis frequently when installing the drive to dissipate the static charge naturally generated on your skin and clothing.

1. If a DVD-RW drive is installed in the optical drive bay, remove it by reversing the procedure included above in "2.4 DVD-R/W Optical drive installation" on page 11.

2. Attach the mounting brackets and data/power cable to the 2nd HDD. See "2.5 HDD installation" on page 15 above.

3. Position the HDD in the optical bay as shown below, and attach it to the chassis using 4 screws, 2 on each side.

4. Connect the HDD SATA data cable (blue) to the SATA1 connector on the PC board.

5. Connect the HDD SATA power cable to one of the mating connectors on the PC board.

NOTE *In a DVR with 2 HDDs, the primary HDD is connected to the SATA0 connector and the secondary HDD is connected to the SATA1 connector.*

2.5.4 BLK-HD10D, BLK-HD16D HDD installation

Your DVR will accommodate standard desktop system HDDs with a SATA interfaces. If installing more than one HDD in your DVR, they may must be the same brand and model. If your DVR was purchased without an HDD, a hardware kit is included with the DVR.

To install an HDD, carefully follow the procedure below.

CAUTION *Follow recommended electrostatic discharge (ESD) guidelines while performing this procedure. Install the HDD in a static-free environment, wearing a certified ESD wrist strap. If a static free environment and ESD wrist strap is not available, touch the bare metal of the DVR chassis frequently when installing the drive to dissipate the static charge naturally generated on your skin and clothing.*

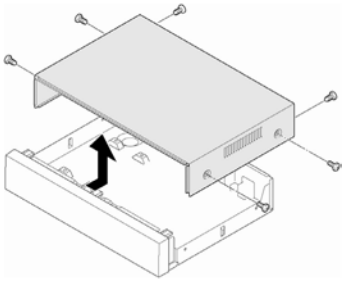
1. If your DVR is powered on, use the menu system to perform a System Shutdown.

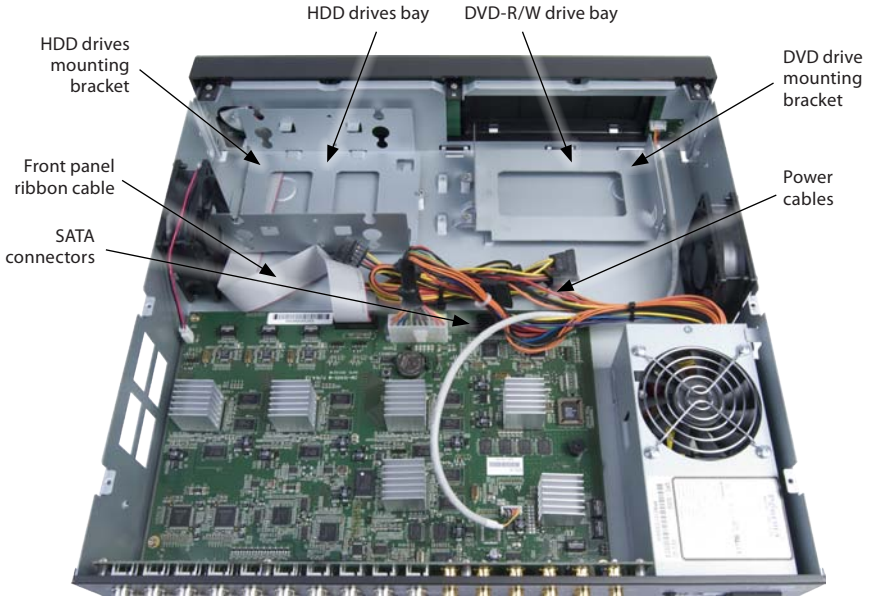
   a. Right click anywhere on the live view screen, then click **SYSTEM SHUTDOWN** in the pop-up menu (see "SECTION 3 System Setup" on page 28), or click the SYSTEM SHUTDOWN icon on the task bar.

   b. Follow the on-screen instructions for shutting down the system.

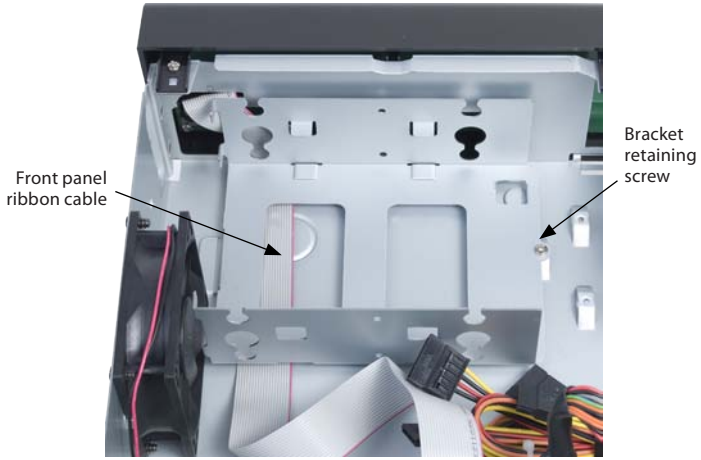
2. Disconnect the power cord from the back of the DVR.

3. Remove the top cover from the DVR by removing the two cover screws on the back of the chassis, and the two on each side. See the drawing below.





4. Remove the HDD drives mounting bracket from the HDD drives bay by removing the retaining screw, then sliding the bracket to the right 1/2 inch to release the bracket tabs from the slots in the chassis.



5. Insert the grommets provided in the hardware kit in the slots in the upper or lower drive slot.

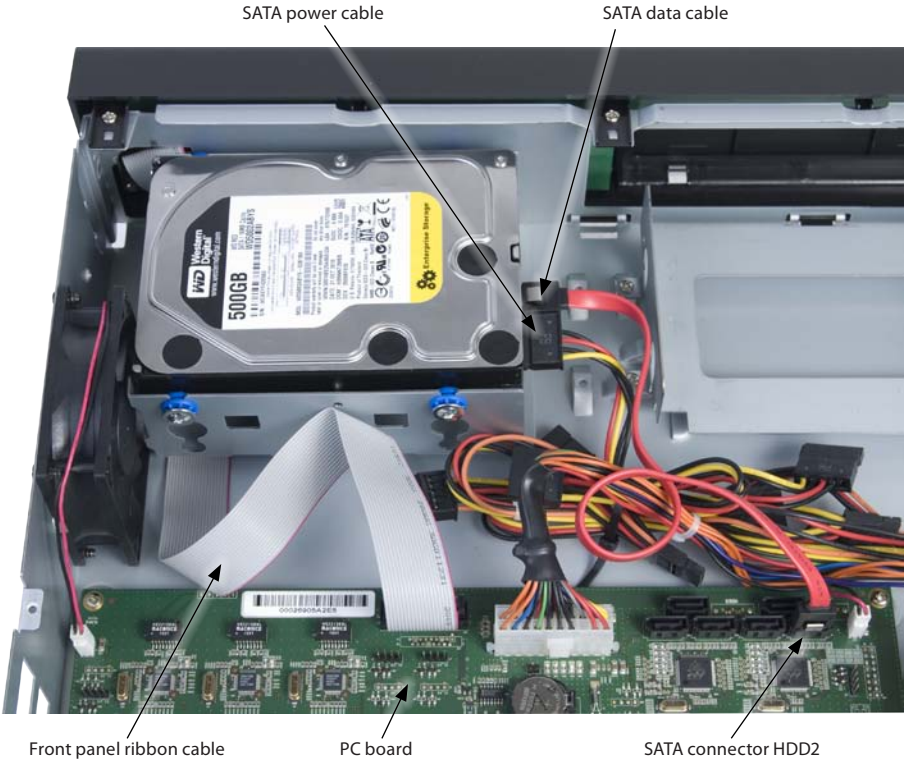
6. Place the HDD in the slot with the connector end toward the bracket end with the retaining screw hole, then secure the drive to the bracket with the four special screws provided, two on each side of the bracket. Tighten the screws until snug.

7. If installing a second HDD drive, repeat the previous two steps for the other drive slot.

8. Reinstall the HDD mounting bracket with the HDD drive(s) in the chassis. Slide the three tabs on the underside of the bracket into the three slots in the chassis, then secure the bracket with the retaining screw.

CAUTION

The HDD mounting bracket be installed over the front panel ribbon cable. Do not damage the cable, or dislodge it from its connectors, especially the connector on the back of the front panel.



9. Plug a SATA power cable from the cable bundle into the mating connector(s) of the HDD drive(s).

10. Plug a SATA data cable provided in the hardware kit into the mating connector of the HDD. Plug the other end of the cable into a SATA connector on the PC board.

NOTE *SATA data interfaces on the PC board are labeled HDD1, HDD2, HDD3, etc. Not all are connectorized. Always use the lowest numbered connectorized SATA data interfaces for the HDD drives in the DVR, and a higher numbered connector for the DVD-R/W drive. For example, if HDD1 is* **not** *connectorized, but HDD2, HDD3 and HDD4 are, and two HDD drives are (or will be) installed in the DVR, use HDD2 for the primary HDD drive, HDD3 for the secondary HDD drive, and HDD4 for the DVD-R/W drive.*

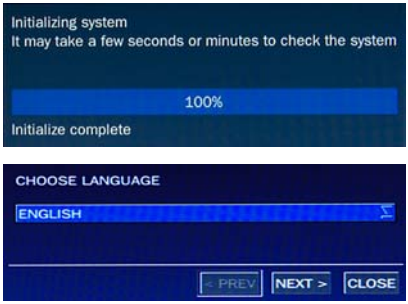
11. Reinstall the DVR cover.

12. Continue with "SECTION 3 System Setup" on page 28. During system startup and initialization, reformat the new HDD drive(s).

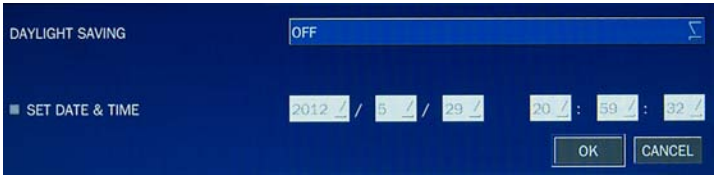
SECTION 3
System Setup

3.1 Starting the system for the first time

When booting the system for the first time, the following messages appear. After the initialization sequence completes, select your preferred language and set the date and time.



If your DVR opens the following window, use the dropdown lists to show the correct date and time, then click **Finish**. The date and time setting is used to timestamp recordings.

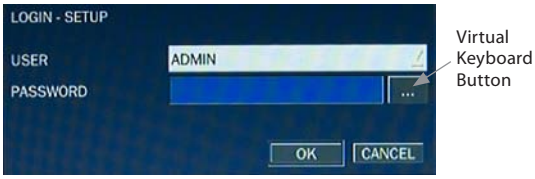


Typical System Desktop Display With One Camera Active

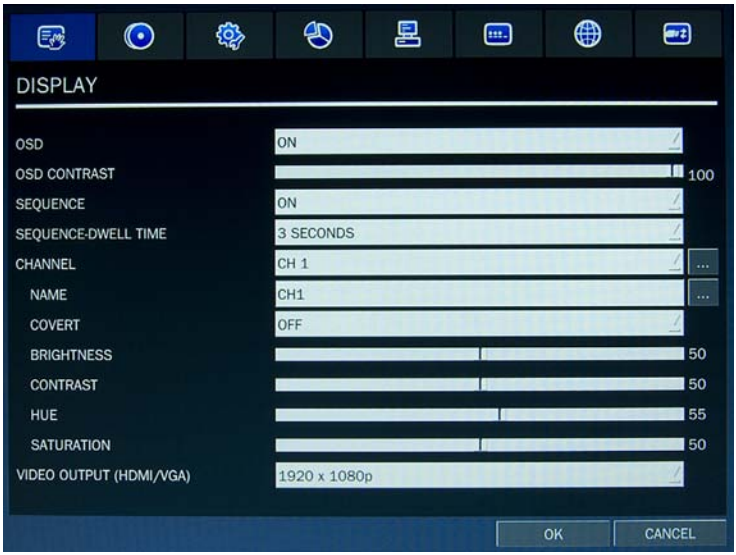
3.1.1 Entering the SETUP menu

13. To enter the SETUP menu, right click on the desktop or press the **SETUP** button on the remote control, then click the **SETUP** entry in the pop-up menu. A LOGIN window will open.

14. In the LOGIN window, open the virtual keyboard and enter the PASSWORD, or use the direction buttons on the front panel. The default password is "**1111**".



After entering the password, the SETUP window will open.



NOTE *For improved security, change the password. You can select a new password through the SECURITY tab in the SETUP menu.*

Open a menu by clicking the tab. To close the window, click **Cancel**. To save changes made to the menus before closing the window, click **OK**.

For a summary of the elements in each SETUP submenu (tab), refer to Appendix C.

Navigating the menus

You can navigate through the menu system, change option values, and click buttons with the mouse. Entry fields usually have drop-down menus you can open to select preset parameter values. Other parameters fields open submenus or keyboards you can use to enter names and other values. You can also navigate through the menu items using the direction button, ▲, ▼, ◀, or ▶ and change option values with the **SEL** button. Always select (or click) **OK** to save new settings and close the SETUP menus. Press the **ESC** button at any time to exit the SETUP menus.

NOTE *In the following descriptions of the SETUP menus, the instructions for navigating the system includes use of the front panel buttons only. Using a mouse for menu navigation and setup of system options can be easier and faster.*

3.2 DISPLAY menu

Opening the SETUP menu, or clicking the **DISPLAY** tab, opens the **DISPLAY** menu.

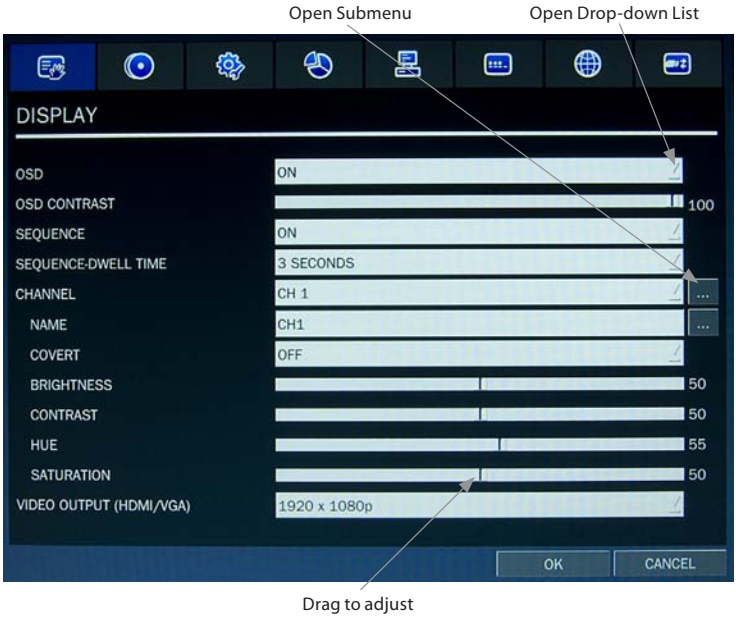


Table 10. DISPLAY menu options

Item	Description
OSD	Enable/disable the on-screen display.
OSD CONTRAST	Set the visibility level of the OSD. (0 ~ 100)
SEQUENCE	Enable/disable sequential display of video in full screen mode.
SEQ-DWELL TIME	Set the dwell time of each quad-split or 9-channel display in sequential display mode. (3 - 60 seconds)
CHANNEL	In the channel submenu, you can tune the display settings for all cameras at once, or setup each camera individually. Click the channel drop-down list to select the channel, then use the click the submenu buttons to NAME the channel and set the COVERT property (enable/disable live display mode). Drag the marker on the image adjustment bars to perfect the image. **BRIGHTNESS**: Change the brightness value of the selected channel. (0 ~ 100) **CONTRAST**: Change the contrast value of the selected channel. (0 ~ 100) **HUE**: Change the hue value of the selected channel. (0 ~ 100) **SATURATION**: Change the saturation value of the selected channel. (0 ~ 100) Click **OK** to save the settings and close the window.

Item	Description
VIDEO OUTPUT (HDMI/ VGA)	Click the submenu button to open a list of monitor resolutions, then click the resolution you prefer. Click **OK**.

3.3 RECORD menu

Clicking the **RECORD** tab opens the **RECORD** menu.

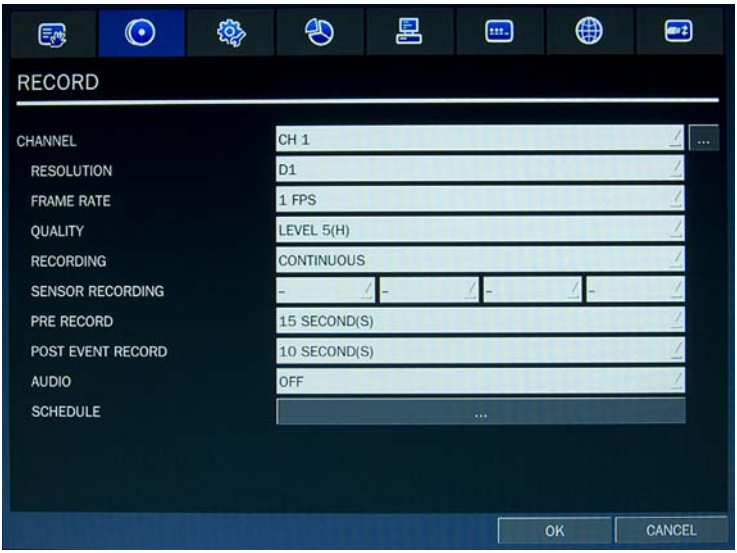
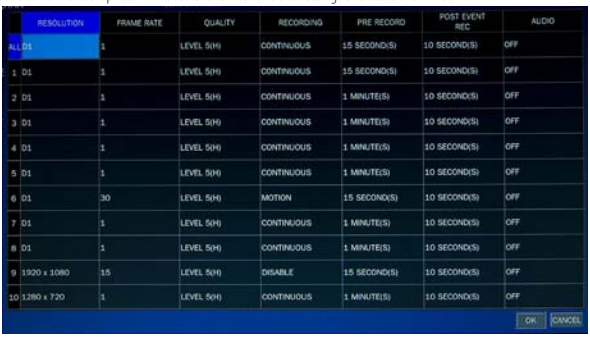


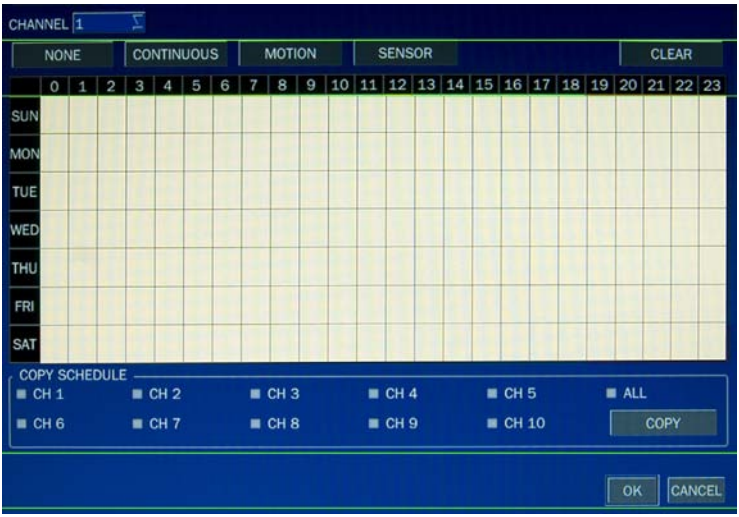
Table 11. Menu Items in Recording Mode Setup

Menu Item	Description
CHANNEL	In the Record Channel submenu, you can set the recording modes for all cameras at once, or setup each camera individually. Click the submenu button to open the setup window. Click a field to highlight it, click the down arrow in the field, then select the option you want from the drop-down menu. Click **OK** to save the settings and close the window. 
RESOLUTION	Select either CIF, Half D1, or D1 for analog channels. For HD-SDI (HDcctv) channels, see "SECTION 10 Specifications" on page 111
FRAME RATE	Set the frame rate for the specified channel (1 ~ 30 fps). The sum of the frame rates from each channel cannot exceed the maximum frame rates for a specific recording resolution. See the Specifications section for the maximum video frame o f your recorder.
QUALITY	Select the recording quality for the specified channel (Level 1 (low) to Level 5 (high)).
RECORDING	Assign the recording mode for each channel. Options are: Disable, Continuous, Motion,Sensor,Schedule.
PRE RECORD	Enable/disable pre-event recording. Options are OFF, 15 SEC, 30 SEC, 1 MIN, 3 MIN, 20 MIN.
POST EVENT RECORD	Set the post event recording time duration for the specified channel. (10 ~ 60 seconds)
AUDIO	Enable/disable audio recording for channel 1 .. 4 only.
SCHEDULE	Click the submenu icon to open the recording schedule setup window. To configure this feature, see the sub-section Recording Schedules below.

RESOLUTION
FRAME RATE
QUALITY
RECORDING
PRE RECORD
POST EVENT REC
AUDIO
ALL D1 1 LEVEL 5(H) CONTINUOUS 15 SECOND(S) 10 SECOND(S) OFF
1 D1 1 LEVEL 5(H) CONTINUOUS 15 SECOND(S) 10 SECOND(S) OFF
2 D1 1 LEVEL 5(H) CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
3 D1 1 LEVEL 5(H) CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
4 D1 1 LEVEL 5(H) CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
5 D1 1 LEVEL 5(H) CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
6 D1 30 LEVEL 5(H) MOTION 15 SECOND(S) 10 SECOND(S) OFF
7 D1 1 LEVEL 5(H) CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
8 D1 1 LEVEL 5(H) CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
9 1920 x 1080 15 LEVEL 5(H) DISABLE 15 SECOND(S) 10 SECOND(S) OFF
10 1280 x 720 1 LEVEL 5(H) CONTINUOUS 1 MINUTE(S) 10 SECOND(S) OFF
OK
CANCEL

3.3.1 Recording Schedules

To setup a weekly recording schedule, click the SCHEDULE submenu bar in the RECORD menu. A recording mode (NONE, CONTINUOUS, MOTION, or SENSOR) can be applied to any hour of the week for each camera.

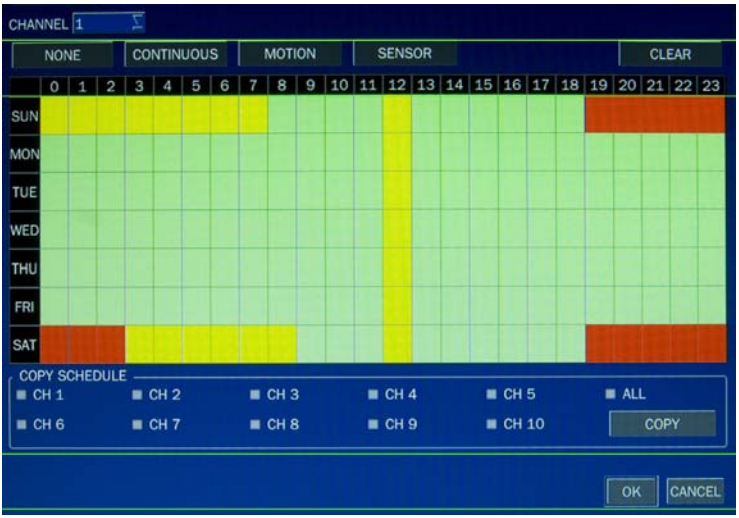


[CHANNEL]: Select the channel for the schedule you are setting.

[MODE]: Click the recording mode (NONE, CONTINUOUS, MOTION, or SENSOR) to apply to the schedule, then drag the mouse cursor across the days and hours in the grid you where you want to use that mode. Timeslots are color coded for the record mode applied to them: CONTINUOUS - green, MOTION - yellow, and SENSOR - red, NONE - white.

[COPY SCHEDULE]: To copy the schedule you setup to other cameras, click the camera channel number(s), then click COPY. You can also use the front panel buttons, ▲, ▼, ◀, ▶, and **SEL** buttons to perform these selections.

Click **OK** to save your settings, or press **ESC** to return to the RECORD menu.



3.4 DEVICE menu

Clicking the **DEVICE** tab opens the DEVICE menu. To return to **SETUP** menu, press the **ESC** button.

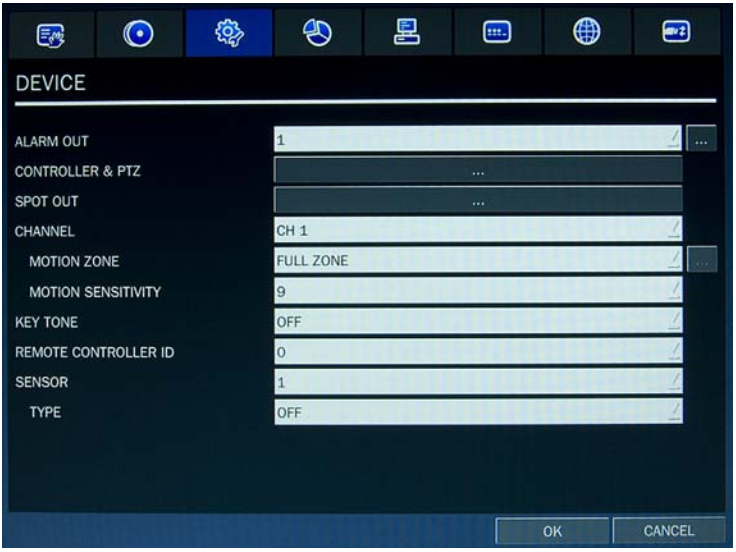
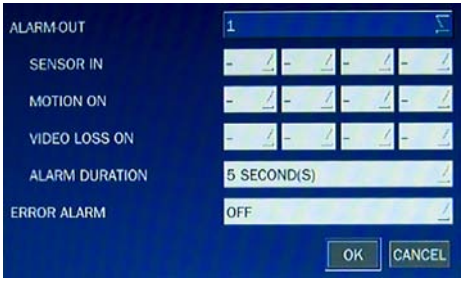
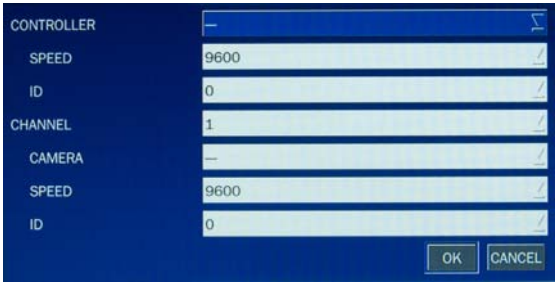


Table 12. Menu Items in Device Setup Screen

Item	Description
ALARM OUT	Set the sensor, motion, and video loss for each alarm.  **ALARM OUT**: 1 only. **SENSOR IN**: Enable alarm out by sensor (up to 4 inputs). **MOTION ON**: Enable alarm out by camera motion (up to 4 cameras can be monitored). **VIDEO LOSS ON**: Enable alarm out by camera video loss (up to 4 cameras can be monitored). **ALARM DURATION**: Set the alarm dwell time. (5 ~ 60 seconds or infinite (continuous)). **ERROR ALARM**: Set the error type for the alarm activation. (OFF, ALL, HDD ERROR, VIDEO LOSS).
CONTROLLER AND PTZ	To control the PTZ functions of the camera, connect the PTZ controller to the RS-485 port on the back of the chassis with CAT 5 (or equivalent) cable. Setup the CONTROLLER AND PTZ submenu SPEED and ID to match the controller and camera configuration.  **CHANNEL**: Channel connected to a PTZ device **NAME**: Protocol type **SPEED**: Baud rate: 19200, 14400, 9600, 4800, 2400 **ID**: 0 ~ 63

Item	Description
SPOT OUT	Enable/disable display of the channel when an event is active. **NOTE**: *The formant of the screen above depends on the capabilities of your DVR.* **SPOT TYPE:** Select FULL or QUAD view. **SPOT ON EVENT**: Enable/disable display of the channel when an event is active. **SPOT EVENT DWELL TIME**: Set the dwell time for the event activated channel (1 - 10 sec). **SEQUENCE**: Enable/disable sequential display of spot channel(s) in full screen. If ON is selected, the spot channel is displayed. **SEQUENCE-DWELL TIME:** Set the dwell time for the spot channel display (1-10 sec). **SPOT CHANNEL**: Select a channel for spot monitoring. Press **SEL** and select channel using the ▲, ▼, ◀, and ▶ buttons, then press **SEL**.
CHANNEL	Select specified channel for motion zone setup.
MOTION ZONE	Select either Full Zone or Partial Zone for motion sensing. **FULL ZONE:** The motion sensor is active on the whole screen. Set the level of sensitivity for MOTION SENSITIVITY. **PARTIAL ZONE:** Selecting Partial Zone for the channel, then clicking the submenu button, opens a widow containing the camera image overlaid with a 22 x 15 block areas. You can select motion sensing for the blocks in the areas individually by clicking on them, or you can select a larger area by dragging the mouse cursor across a rectangle of blocks. Block areas selected for motion sensing are shaded green. To disable motion sensing on a selected block, click on it. To return to the Device menu, right click on the screen, or press the ESC button on the front panel.

Item	Description
MOTION SENSITIVITY	Set the motion sensitivity for the specified channel. (1 ~ 9).
KEY TONE	Enable/disable tone when key is pressed.
REMOTE CONTROL ID	Select an ID for the remote control device. 1. Select ID number. 2. On the remote control, press the same number as the ID set in the DVR. 3. An icon will be displayed on Live screen that corresponds to the remote control. (0 ~ 99)
SENSOR	Select sensor number. The number of sensors available depend on the model of the DVR.
TYPE	Set the type of sensor for the specified channel. (OFF, N/O (normal open), N/C (normal closed)).

3.5 STORAGE menu

Clicking the **STORAGE** tab opens the storage menu. Navigate through the menu items using mouse. You can also navigate the menus with the ▲, ▼, ◀, and ▶ buttons, and press **SEL** to select options.

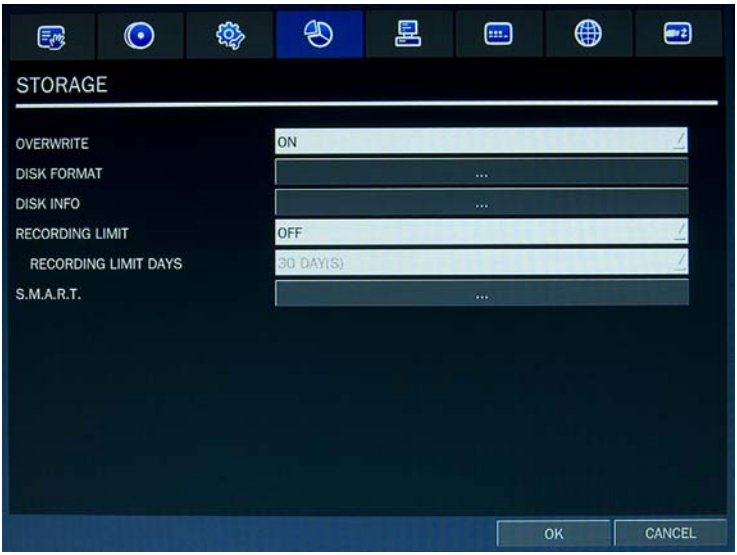
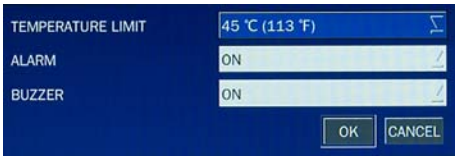


Table 13. Menu Items in STORAGE Setup Screen

Item	Description
OVERWRITE	If enabled, the DVR will continue recording when the drive is full, overwriting the oldest information first. If disabled, recording will stop when the hard drive is full.

Item	Description
DISK FORMAT	Select YES or NO to format the hard drive (disk). **Caution**: Formatting the hard drive will erase all information on the disk. Archive all data that you may need before formatting the disk.
DISK INFO	Click the submenu button to view hard drive information Click **DETAIL** to show the performance health of the drives.
RECORDING LIMIT	Enable/disable a recording limit (days).
RECORDING LIMIT DAYS	Set the recording limit in days (1- 90 days). If set to 1 day, data older than 24 hours will be removed.
S.M.A.R.T.	Click the submenu button to view hard drive S.M.A.R.T. data for each hard drive.  Select the options on the S.M.A.R.T. menu as needed.

3.6 SYSTEM menu

Clicking the SYSTEM tab opens the system menu. Navigate through the menu items using mouse. You can also navigate the menus with the ▲, ▼, ◀, and ▶ buttons, and press **SEL** to select options.

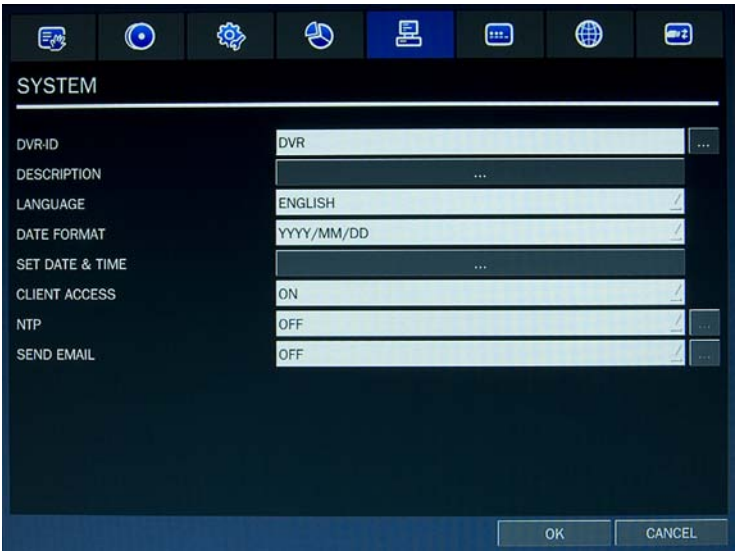
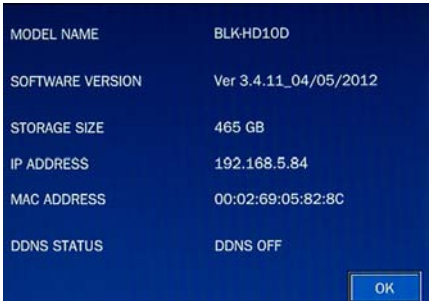
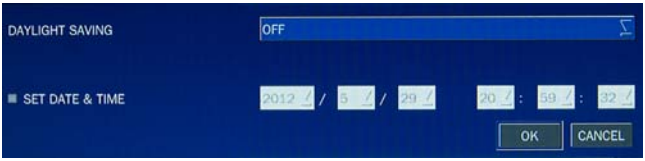
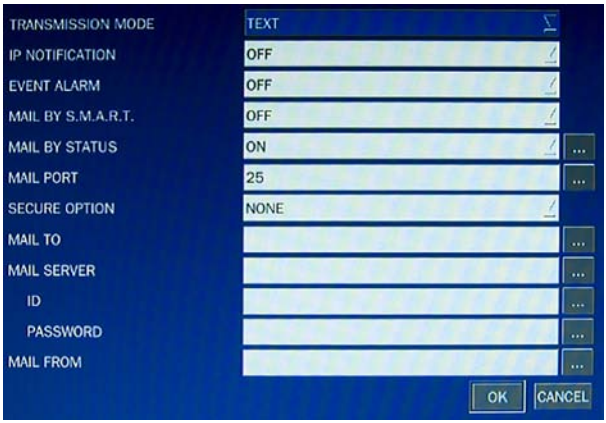


Table 14. Menu Items in SYSTEM Setup Screen

Item	Description
DVR ID	Select the submenu button to open the virtual keyboard, then click your way to a new name for your DVR. The DVR ID can have a most 10 characters. Click **OK** when finished.
DESCRIPTION	Click the DESCRIPTION submenu button to open an information showing a summary of your DVR. OPress the **SEL** button to view system information (hardware version, software version, storage size, IP address, MAC address, and DDNS status). NOTE: This window shows the software version number. Click **OK** to close the window.  MODEL NAME BLK-HD10D SOFTWARE VERSION Ver 3.4.11_04/05/2012 STORAGE SIZE 465 GB IP ADDRESS 192.168.5.84 MAC ADDRESS 00:02:69:05:82:8C DDNS STATUS DDNS OFF OK

Item	Description
LANGUAGE	Open the drop-down list to select your preferred menu system language. Several language options are available.
DATE FORMAT	Select the date format using the ▲, ▼, ◀, and ▶ buttons. Options include: YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY.
SET DATE & TIME	Click the submenu button to open the DATE & TIME setup window. Click each field and select the current value from the drop-down list. In the DAYLIGHT SAVINGS list, select OFF, USA, EU (European union) or OTHERS. Click **O**K to commit the settings. 
CLIENT ACCESS	Enable (ON) or Disable (OFF) remote access through network client software.
NTP	Click the NTP field and select ON, then click the submenu button to open the NTP setup menu. Use this feature to synchronize the clocks of computer systems over variable-latency data networks. **PRIMARY SNTP SERVER**: Use the virtual keyboard to enter the address of the primary NTP time server. **SECONDARY SNTP SERVER**: Use the virtual keyboard to enter the address of the secondary NTP time server. **TIME ZONE**: Select the offset from GMT (Greenwich Mean Time). **CONNECTON MODE**: Select an NTP time server connection mode (INTERVAL/TIME). **INTERVAL**: Synchronize the clock by hours shown on the connection period option. **TIME**: Synchronize the clock at the time daily shown on the connection period menu. CONNECTION PERIOD: 1 ~ 24.

Item	Description
SEND EMAIL	Click the SEND MAIL field and select ON, then click the submenu button to show the setup options. **TRANSMISSION MODE**: When an alarm is triggered, send an image of only the channel that triggered the alarm. **IP NOTIFICATION**: Enable/disable sending email when the IP address of your DVR is changed. **EVENT ALARM**: When an alarm is triggered, enable/disable sending email reports of the channel that triggered the alarm. **MAIL BY S.M.A.R.T.**: **MAIL PORT**: Port number of the mail server. **SECURE OPTION**: Select security method: NONE, SSL or TLS **MAIL TO**: Use the virtual keyboard to enter the email address of the recipient. **MAIL SERVER**: Use the virtual keyboard to enter the mail server information. **ID**: Use the virtual keyboard to specify the user ID for the mail server. **PASSWORD**: Use the virtual keyboard to specify the connection password for the mail server. **MAIL FROM**: Use the virtual keyboard to specify the email address sent to the destination host. 

3.7 SECURITY menu

Clicking the **SECURITY** tab opens the security menu. Navigate through the menu items using mouse. You can also navigate the menus with the ▲, ▼, ◀, and ▶ buttons, and press **SEL** to select options.

NOTE *You must be a user with **Admin** permissions to configure the SECURITY menu.*

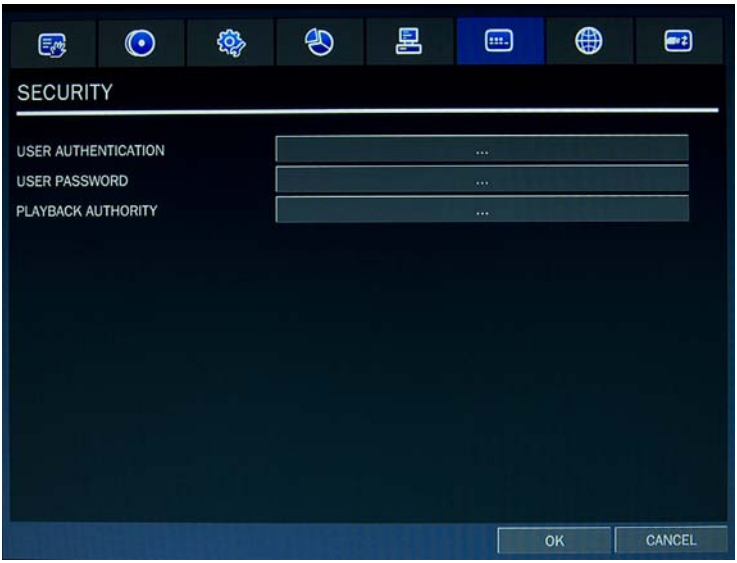
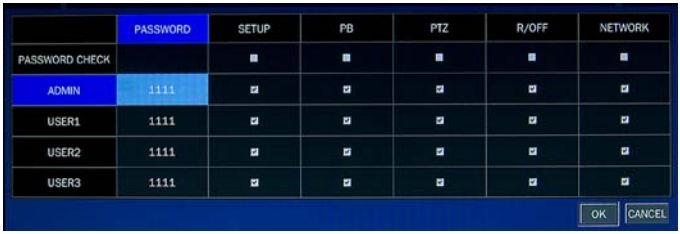
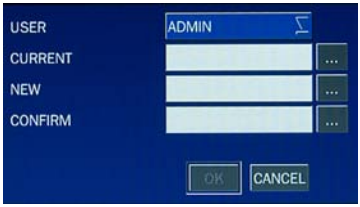


Table 15. Menu Items in PASSWORD Setup Screen

Item	Description
USER AUTHENTICATION	Click the User Authentication submenu button to open the **PASSWORD and PERMISSION** menu. Check or uncheck boxes to allow permissions to different users for access to areas of the system.



In the PASSWORD CHECK row, check or uncheck the box to select for all users, or check or uncheck the individual settings for each user. Press **ESC** to return to the SECURITY menu. Options are defined as:
SETUP: Access to the SETUP menus
PB: Control video Playback
PTZ: Control and configure PTZ (Pan/Tilt/Zoom) device settings
R/OFF: Control manual recording (ON/OFF)
NETWORK: Change network settings

Item	Description
USER PASSWORD	Click the User Password submenu button to open the password setup menu. To change a password, select a user from the drop-down list, then enter the current, new, and confirm password fields Click OK when finished. The factory default Admin user password is **1111**. 
PLAYBACK AUTHORITY	Click the User Playback Authority submenu button to open the setup menu. Check or uncheck boxes to assign playback rights to users for viewing video clips of cameras channels.

NOTE *For improved system security, it is strongly recommended that you change the factory default passwords during the initial setup of your system.*

3.8 NETWORK menu

Clicking the NETWORK tab opens the setup menu. Navigate through the menu items using mouse. You can also navigate the menus with the ▲, ▼, ◀, and ▶ buttons, and press **SEL** to select options.

NOTE *You must be a user with **Admin** permissions to configure the NETWORK menu.*

For additional guidelines for determining network settings, refer to the DVR Networking Guide provided with your system. This guide is also available through your support team.

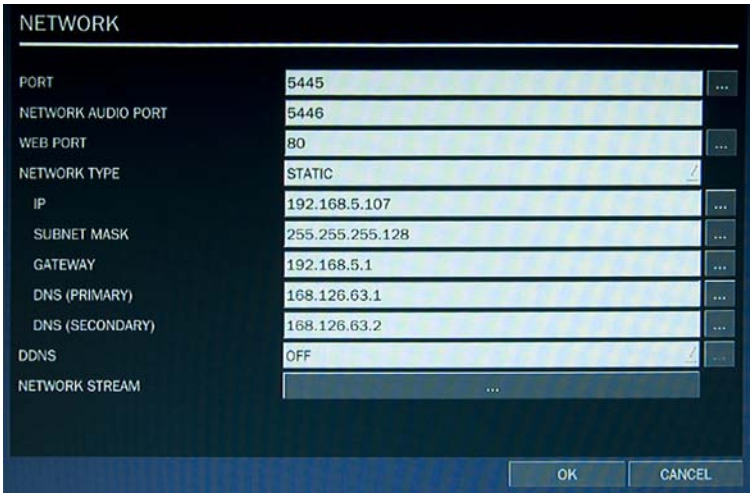
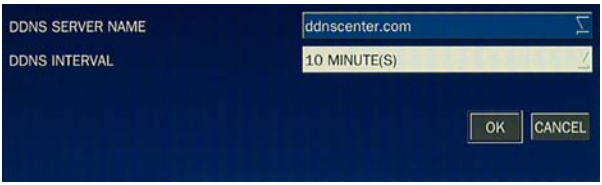
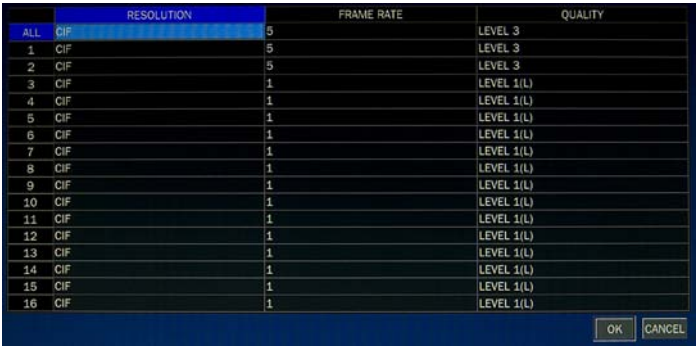


Table 16. Menu Items in the NETWORK menu

Item	Description
PORT	Click the submenu button to open a keypad for entering the port number (default: 5445)
WEB PORT	Click the submenu button to open a keypad for entering the web sever port number (default: 80)
NETWORK TYPE	Select a type of network connection. Options are: DHCP or STATIC. NOTE: Depending on the type selected, the options in the network menu will change appropriately.
DHCP	If selected, the DVR automatically acquires its network settings from a DHCP server. This address may change without notice.
STATIC	If selected, you must configure the network settings manually. These settings remain in effect until manually changed. **IP**: Enter the IP address assigned to the DVR. **GATEWAY**: Enter the Gateway IP address assigned for the DVR. **SUBNET MASK**: Enter the Subnet Mask for the subnet where the DVR is connected. **DNS**: Enter the DNS primary and secondary server addresses.

Item	Description
DDNS	To use DDNS, open the drop-down list and select SERVER1, then click the submenu button to the right. Select ddnscenter.com from the three DDNS servers. (If you select another DDNS server, the DVR cannot connect to the DDNS properly.) **DDNS (SERVER1)**: Select one of the following DDNS servers: in USA, use **www.ddnscenter.com**, in Korea, use **www.okddns.com**, or if in the EU, or use **www.bestddns.com**. **DDNS INTERVAL**: 5 - 60 minutes.  If you select SERVER2 from the drop-down list, you can configure the DVR to use a general-purpose DDNS server.
NETWORK STREAM	Click the submenu button to open network stream setup submenu This menu is used to configure the resolution, frame rate, and quality at which live video from each camera can stream across the network. The total data rate permissible is dependent on the model of your DVR. Refer to the Specifications section for more information. Set the preferred options using the drop-down lists, then select **OK**. 

3.8.1 Network ports

When you connect one or more DVRs to a network through an IP sharing device, each DVR must be assigned a unique TCP port number for access from outside the LAN. Additionally, the IP sharing device must be configured to forward the assigned port to the specific DVR.

NOTE *This port number is listed next to the Port menu option in the Network Setup screen. If you access the DVR only from within the same LAN, the TCP port number does not need to be changed.*

Network access beyond a router

To access the DVR beyond a router (firewall), you must open TCP ports for commands, for live channels, and for storage channels. The default DVR port numbers are 5445 and the web port number 80. If this port is not opened properly, you cannot access the DVR outside a router.

3.9 CONFIG menu

Clicking the **CONFIG** tab opens the system configuration menu. Navigate through the menu items using mouse. You can also navigate the menus with the ▲, ▼, ◀, and ▶ buttons, and press **SEL** to select options.

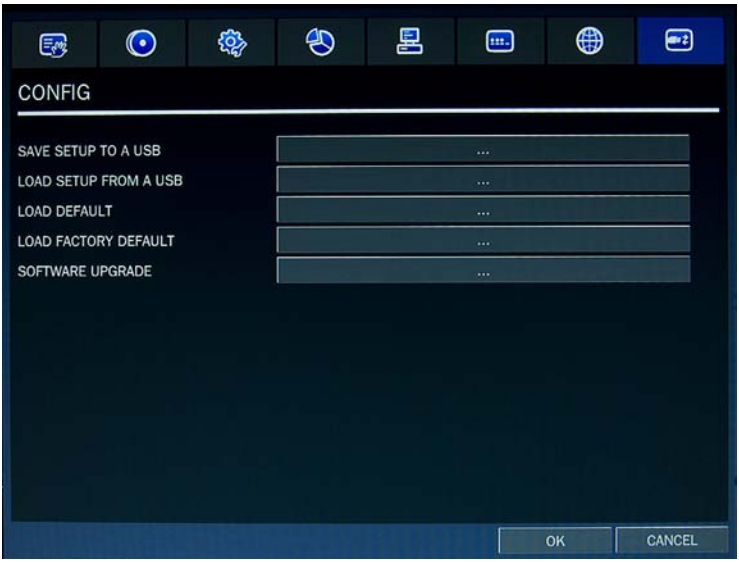
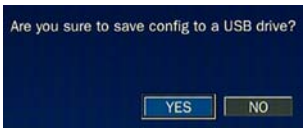
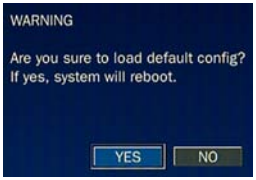
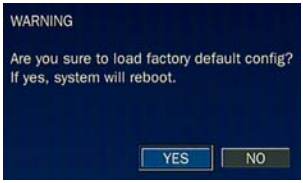
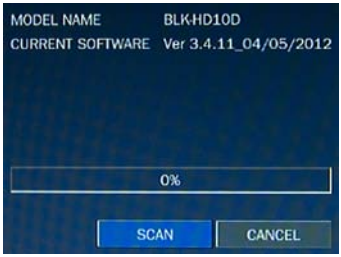


Table 17. CONFIG menu items

Item	Description
SAVE SETUP TO A USB	Click the submenu icon. To save the current system configuration to the USB flash drive, plug the flash drive into the USB port on the front panel, click **OK** to confirm the operation, then follow the on-screen prompts to complete the save. **NOTE**: If the message "**CHECK USB**" appears, repeat the process until "**SAVE SUCCESS**" is shown. 

Item	Description
LOAD SETUP FROM A USB	Click the submenu icon. To upload a saved DVR configuration from a USB flash drive, plug the flash drive into the front panel USB port, click **OK** to confirm the operation, then follow the on-screen prompts to complete the upload.
LOAD DEFAULT	Click the submenu icon. Select **YES** to load the system default settings. **NOTE**: The following items are not reset: language, DVR ID, Security User Authentication, Security User P/W, date format, DLS settings, network settings, HDD overwrite, limit recording, HDD serial number, and HDD ERROR time. 
LOAD FACTORY DEFAULT	Click the submenu icon. Select **YES** to reset the system to the factory default settings. 
SOFTWARE UPGRADE	Click the submenu icon. Select **SCAN** to search the USB file for firmware, then follow the on-screen instructions to complete the upload. 

SECTION 4
Live, Search, and Playback

In the Live screen, video inputs from the cameras are displayed the On-screen display (OSD) features as configured in the Display Setup screen. OSD icons that indicate the status of the DVR are shown along the bottom of the screen.

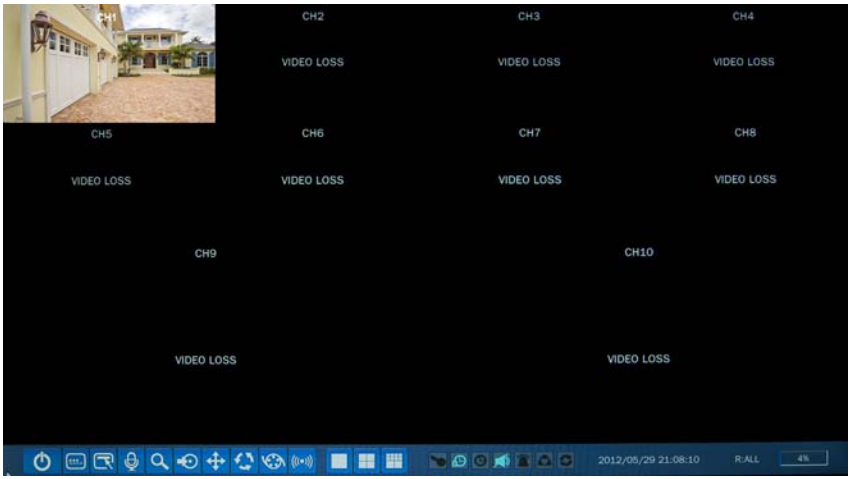


Table 18. Status Indicator Icons in Live Viewing Screen

Icon	Description
	Power Off. To power off the system, click this icon then follow the on-screen instructions.
	Lock/Unlock SETUP button.
	Setup button. Click this button to open the SETUP menu.
	Audio button. Click this button to set the audio reception type: audio mute, single audio channel, or 4 audio channels. To set a single audio channel, first select a specific channel on the live screen.
	Search button. Click this button to open the search menu.
	Backup button. Click this button to perform a backup.
	PTZ button for control of PTZ cameras. When this button is clicked, a PTZ control window will open.

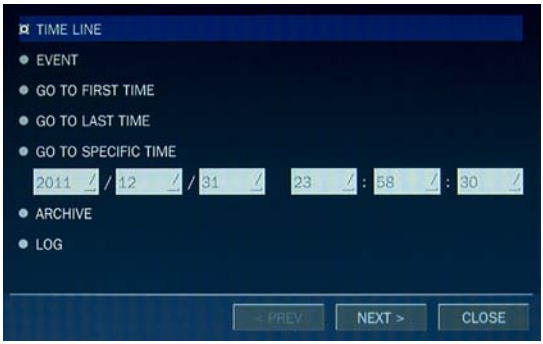
Icon	Description
	Sequence button. Click this button to use a sequence function.
	Manual Record button. Click this button to begin recording.
	Alarm-out function on/off button. When an alarm is in progress, click this button to stop reporting the alarm.
	Click the split screen icon to change the current split screen mode.
	Indicates that the lock is set.
	Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.
	Indicates that the alarm output is activated.
	Audio mute. To set audio mute, press the Audio button on the front panel.
	Single audio channel. To set audio single channel for the selected channel only, press the Audio button on the front panel.
	To mix audio channels, press the Audio button on the left side.
	Alarm indicator. When an alarm is activated (sensor or motion alarm) in the video channel, this icon will be highlighted bright red.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.
2009/04/14 17:23:40	The current date and time.
R:A	Remote control ID display. If a remote ID is not set, the message "A(all)" is displayed.
	Displays the amount of recording space used on the hard disk from 0-99%.
	Indicates that HDD is recycled (full and overwriting oldest data with new data).
	Continuous recording in progress.
	Manual recording in progress. To set Manual recording mode, press the Record button on the front panel.
	Motion alarm recording in progress.
	Sensor recording in progress.

OSD menu

You can open the on-screen display menu with the mouse by right-clicking anywhere on the Live screen. Options in the OSD menu are also represented by the icons in the tray at the bottom of the screen. See "Table 18. Status Indicator Icons in Live Viewing Screen" on page 49 for a description of these icons.

4.1 SEARCH menu

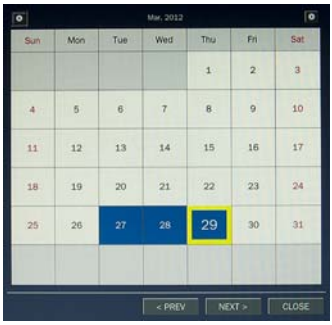
To open the SEARCH menu, press the SEARCH button on the front panel or click the SEARCH icon on the Live screen.



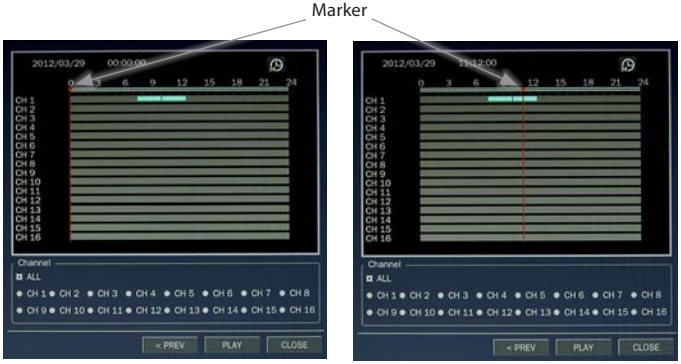
Recorded data can be searched in the following ways: TIMELINE, EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE, and LOG.

4.1.1 TIME-LINE search

The TIME-LINE search window is used to find stored video by using the time line bar. Select TIME LINE in the SEARCH menu, then select NEXT. A calendar window will open.



The highlighted days in the calendar window indicate that data was recorded at that time. The day selected is highlighted blue. Select the day of interest, then select NEXT.

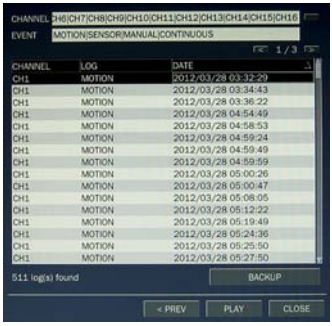


In the TIME LINE window, the highlighted bars show the time of day when data was recorded. Drag the marker to the time when you want to begin playing a recording, click the channel number of interest, then click **NEXT** to play the video. To expand the timeline, click the icon in the upper-right corner between the ◀ and ▶ buttons. To stop the video playback, press the **ESC** button on the front panel.

4.1.2 EVENT search

Use EVENT search to quickly find recordings associated with specific events. To open the EVENT search window, select **EVENT** on the **SEARCH** window, then select **NEXT**. A calendar window will open (see above).

The highlighted days in the calendar window indicate that video was recorded at that time. Select the day of interest, then select **NEXT**.



In the Event list window, click the event of interest, then click NEXT to play the video. Press the ESC button to stop playing the video and return to the event list window.

The submenu button in the upper right corner opens a channel selection window where you can select the specific channel you want to play. Select the channel, the press the **ESC** button to return to the event list window.

4.1.3 GO TO FIRST TIME search

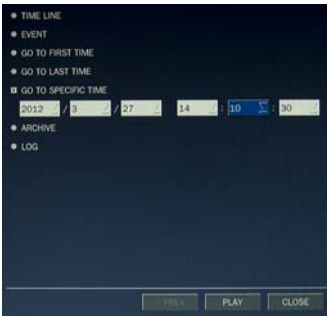
You can access from the oldest recorded data on the DVR by selecting GO TO FIRST TIME on the SEARCH window. Press the **ESC** to return to the SEARCH window.

4.1.4 GO TO LAST TIME search

You can access from the last minute recorded data on the DVR by selecting GO TO LAST TME on the SEARCH window. Press the **ESC** to return to the SEARCH window.

4.1.5 GO TO SPECIFIC TIME search

In the SEARCH window, select GO TO SPECIFIC TIME, then use the mouse with the drop-down lists or the ▲, ▼, ◀, and ▶ buttons to enter the starting time of the video you want to play.



To stop playing video, press the front panel **ESC** button or click the ☒ icon. If no video was recorded at the time you entered, a NO DATA EXIST message will appear.

4.2 ARCHIVE search

Backed up data can be retrieved trough the Archive search and then backed up to portable media for use away from the DVR.

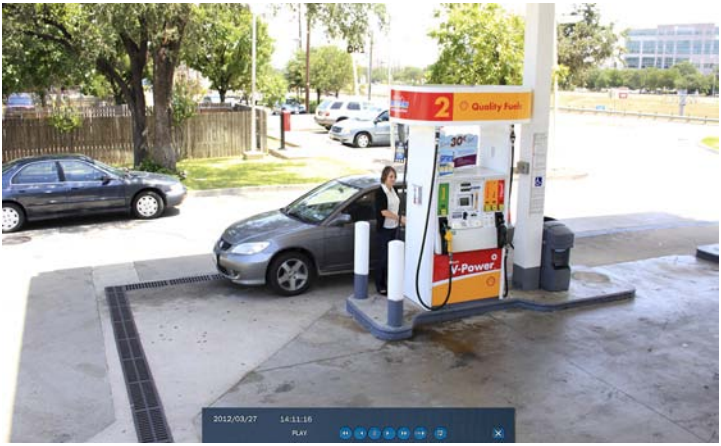
NOTE *Before you can search for an Archived video clip, clips must first be backed up. See **Backup video clip** below.*

To perform an Archive search (search of backed up recorded video or photo), select **ARCHIVE** in the SEARCH window. A calendar window will open. The highlighted days in the calendar window indicate that data was backed up on those days. The data backed up may be recorded (timestamped) on a different day. Select the day when the data was archived, then select **NEXT**.

In the archive LOG list, select the file entry with the date and time when the data was backed up, then select **DISPLAY**. In the ARCHIVE IMAGE window, the timestamp of the recorded is shown in the **Backup** frame. Select the image and MEDIA location, then click **BACKUP**. To close the ARCHIVE IMAGE window, press **ESC** or click **CLOSE**.

4.3 PLAY mode

Playing a recorded event changes the DVR mode from SEARCH to PLAY. While in PLAY mode, you can return to the SEARCH screen by pressing the front panel **ESC** button or clicking the ☒ icon.



Playback controls are located at the bottom of the screen.

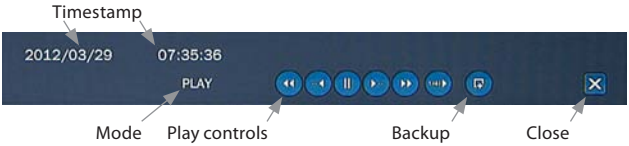


Table 19. Playback controls (PLAY Mode)

Icon	Description
	Go to the previous menu screen or search window, or exit from the menu.
◀◀	Select to rewind the recording. Select again to increase the rewind speed.
--◀	Jump/step backward. The playback position moves 60 seconds back.
▶ / II	Select to play or pause a recording.
▶--	Jump/step forward. Playback position moves 60 seconds ahead.
▶▶	Select to fast forward the recording. Select again to increase the fast forward speed.
--▶-	Slow playback.
	Select to backup video clip.

4.4 Backup video clip

You can archive the video clip by clicking the Backup button in Play mode (see the screen above. The system adds all backed-up video clips to the Archive search list. The Backup button is located on the play control bar.

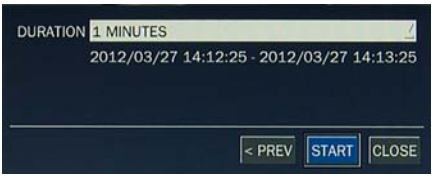
To archive the clip:

1. Click the **Backup** button.

2. Select the device you want to backup (archive) to. All archive devices are listed in the media window.

3. Click **NEXT**.

4. In the window that opens, select the duration of the video clip from the drop-down list, then click **START**.



Allow the backup operation to complete before continuing.

SECTION 5
PTZ Control

To control the PTZ functions of the camera, select **Camera PTZ** on the OSD menu. Use the ▲, ▼, ◀, and ▶ buttons to select the channel of the PTZ camera and features you want to control.

Table 20. Button functions in PTZ control

Item	Description
INITIALIZE	Initialize the PTZ settings of the selected camera.
PAN / TILT	Select PAN/TILT using the ▲ ▼ ◀ and ▶ button, then and press **SEL**. Adjust the tilt (UP/DOWN)/pan (LEFT/RIGHT) position using the ▲, ▼, ◀, and ▶ buttons.
ZOOM / FOCUS	Select ZOOM/FOCUS using the ▲, ▼, ◀, and ▶ buttons, then press **SEL**. Adjust the zoom (UP/DOWN)/focus (LEFT/RIGHT) position using the ▲, ▼, ◀, and ▶ buttons.
OSD	Select OSD to enter the menu. Control keys are Right, Left, UP, Down, Select, Far (REW KEY), and Near (FF KEY). Press the **ESC** button to return to the previous menu. Press the **PTZ** button to close the OSD menu.
AUTOSCAN	Press the right key (▶) to start auto scan. Press the left key (◀) to stop auto scan.
PRESET	Select PRESET, then press the left key (◀). A number input window will appear. Set the number (3 digits) using the number key, then press the **SEL** to confirm the preset number for the current position. Press the right key (▶) and enter the number (3 digits) to go to the preset position.
TOUR	Select TOUR and press the right (▶) key. A number input window will open. Select a number (1 digit) using a number key, then press **SEL** to start the tour. Press the left (◀) key to stop the tour. Preset the number of the tour group in the OSD menu.
NUMBER	For the TOUR and PRESET menu.
	Press **ESC** to return to the main menu.

The Preset, Tour, OSD, and Autoscan function are only available on some camera models.

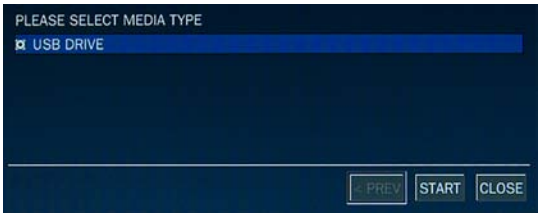
SECTION 6
Backup

Still images and video clips can be backed up in both Live mode and Playback mode, and written to a USB flash drive (with FAT32 format) or CD/DVD. A CODEC installer (CODEC required for playing AVI files with Windows Media Player) is also written to the backup device.

6.1 Still image BACKUP onto USB flash drive

Still images can be captured and backed up onto the USB flash drive or CD/DVD while in Live mode or during video playback. To initiate a backup, press the BACKUP button or select the BACK UP menu to launch the backup (archive) function.

1. If in Live mode, select the channel to backup the image from. The BACKUP window will open.



2. Select the media you want to save the image on. If you want to backup the image to a USB flash drive, insert the drive into the USB port on the back or front of the DVR. If you want to backup to a CD or DVD, place a blank CD-R/W or DVD-R/W disk into the DVD drive. If no DVD-RW drive is installed in the DVR, the only backup option is USB.

3. Click **START**. When the backup is complete, a message will appear. When the DVR backs up to a USB flash drive, it will create a directory on the flash drive with a date-coded named in the format "YYYYMMDD" (ex. "20110210") and write the file there.

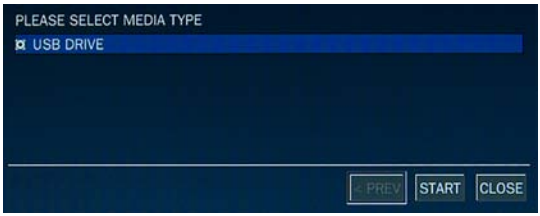
6.2 Video BACKUP

Recorded video can be backed up onto the USB flash drive or CD/DVD-RW drive in playback mode. To perform the backup:

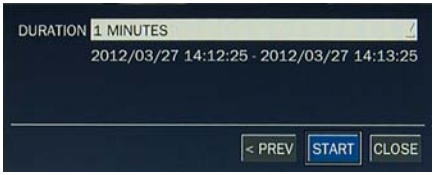
1. In playback mode, press the **BACKUP** button to launch the archiving function.

2. When the BACKUP window opens, select **STILL IMAGE**, **NSF** (native video format), or **AVI** (video format), then select **Next**.

3. In the media window, select the media type you want to backup to. If no DVD-RW drive is installed in the DVR, the only backup option is USB.



4. In the BACKUP window, select the channels to backup (if shown), the duration (from the drop-down list), then select **Start**.



5. Select **START**. When the backup is complete, a message will appear. When the DVR backs up to a USB flash drive, it will create a directory on the flash drive with a date-coded name in the format "YYYYMMDD" (ex. "20120327") and write the file there.

6.3 BACKUP still images or video from the ARCHIVE list

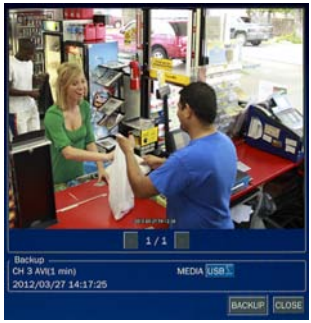
Video clips and images stored in the ARCHIVE list on your hard drive can be copied to a USB flash drive or a CD/DVD. To perform the copy:

1. Use the mouse or the ▲, ▼, ◀, ▶, and SEL buttons to open the SEARCH window and select ARCHIVE. A calendar window will open. Dates highlighted in the calendar window indicate that archived data exists for those days.

2. In the calendar window, select a date, then select **Next**.

3. Scroll through the archive list and highlight the file of interest. Select **DISPLAY**.

4. In the ARCHIVE IMAGED window, select the media (USB or CD/DVD-R). If you want to copy the file to a USB flash drive, insert the drive into the USB port on the back or front of the DVR. If you want to backup to a CD or DVD, place a CD-R/W or DVD-R/W disk into the DVD drive.



5. Select **BACKUP** to copy the file to the media drive.

6. When the backup is complete, select **CLOSE** button to return to the LOG list window.

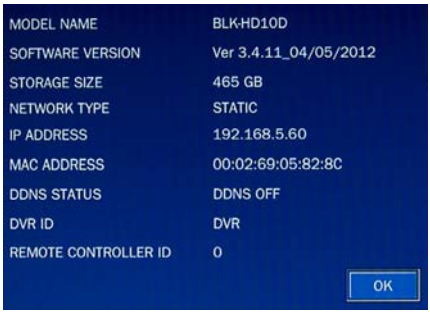
6.4 Playing backed up video clips

Video clips are backed up from the DVR in AVI or NSF format. AVI files can be played in Microsoft® Windows® with Window Media® Player and other players compatible with AVI formatted files. A CODEC installer, written to the backup device with the AVI file, should be executed before playing AVI files with Media Player.

SECTION 7
Web Client

Web Client, the network-based administrative interface to the DVR, is used with Microsoft Internet Explorer® (IE) tool used to monitor and control the DVR remotely. To use this feature, the DVR must first be configured and connected to a network. The URL (internet address) of the DVR depending the path used to connect to it.

If your computer is networked on the same local network as the DVR you are accessing, the URL is the IP address shown in the DVR System Information window. In the example shown below, the URL is the IP ADDRESS: 192.168.5.60.



If you are accessing your DVR across the internet, your DVR may be addressed through a port forwarded by a router or a device that connects the network with the DVR to the Internet, or through a connection to a DDNS web service such as ddnscenter.com (preferred). To use this service for accessing your DVR across the internet, refer to ddnscenter.com for more information.

7.1 Connecting to the DVR with IE

After your DVR is setup on a local LAN, use IE to connect to it to verify the DVR connectability. This connection increases flexibility for monitoring and configuring your security system.

Before you can connect to the DVR with IE, the (default) security settings in IE are modified slightly to allow it to install an software from the DVR.

1. At your PC, load IE.

NOTE *If your computer operating system is Windows Vista or Windows 7, User Account Control can interfere with the normal operation of the DVR user interface. To disable UAC, open the Control Panel > User Account > User Account window, clear the* ***Use User Account Control (UAC) to help protect your computer*** *check box, then click* ***OK****. A computer restart may be required.*

2. In the IE URL field, enter the IP address assigned to your DVR. Using the example shown above, enter:
   192.168.5.60

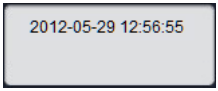
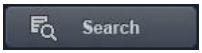
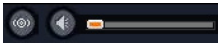
3. If a message appears to load an ActiveX control, follow the screen prompt to continue.

4. If a message appears to load the SCTechnologies Client, click **Install**. Follow the prompts to Install the program.

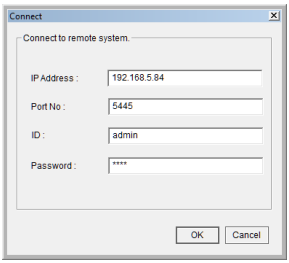
Internet Explorer - Security Warning
Do you want to install this software?
Name: SCTechnologies-control(ver 1.5.7.2)
Publisher: SC Technologies
More options
Install
Don't Install
While files from the Internet can be useful, this file type can potentially harm your computer. Only install software from publishers you trust. What's the risk?

After the Web Client loads, the Connect screen will be available.

Table 21. Web Client Live window components

Button	Function	Description
	TIMESTAMP	Timestamp window. When Web Client is not connected, it shows the PC time. When Web Client is connected and showing live video, it indicates the DVR timestamp. When Web Client is playing video, it is the timestamp of the video frame.
	CONNECT / DISCONNECT	Used to initiate a connection to a DVR, or disconnect from a DVR.
	SEARCH / LIVE	Used to switch between the search window and the live mode window.
	CHANNEL SELECT	Used to select and display one channel.
	SPLIT SCREEN SELECT	Used to select the screen split: 2x2, 3x3, 4x4
	PTZ DIRECTIONAL CONTROl	Click the center button until PT appears. Click the PTZ camera to select it, then click the directional icons to move the camera in that direction.
	PTZ Zoom/Focus Control	Click the center button until ZF appears. Click the PTZ camera to select it, then click the upper and lower icons to zoom in and out, click the right and left icons to focus.
	AutoScan, Tour, OSD Setup buttons	**AutoScan** chanes the dial control to play/stop the autoscan feature, and select the camera channel to autoscan. **Tour** displays channels sequentially in full screen mode. OSD Setup opens the Web Client on-screen display controls menus.
	Mic On/Off, Audio On/ Off, Volume Control	Use these features to control the audio system. When the Mic and Audio icons are gray, those components are disabled.
	Capture, Pause, Preset, Setup buttons	**Capture**: used to capture a photo of the screen. **PAUSE**: use to freeze the screen in live mode, or freeze playback. **Preset**: **Setup**: Opens the DVR Setup menu system

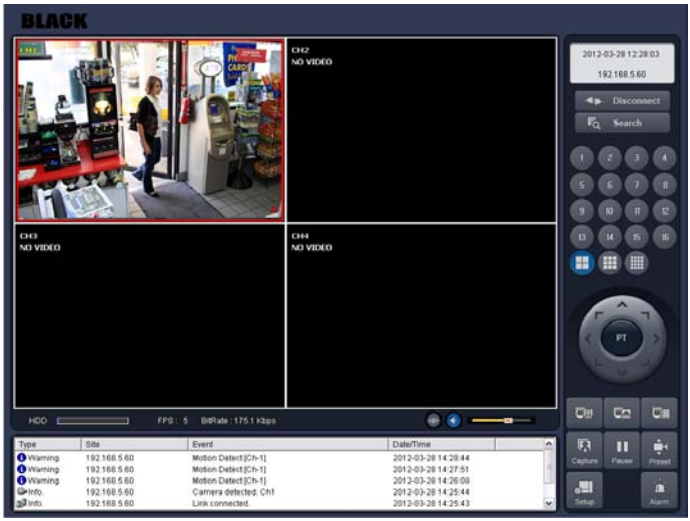
5. Click the **Connect** button. A **Connect** webpage dialog menu window will open.



In the Webpage Dialog menu, enter:

- **Server address:** For access across a local network (Web Client PC on the same subnet as the DVR), use the DVR IP address. For access from the internet, use the DDNS URL (if available) or router/modem IP address with forwarded port number.
- **Port**: Port number of the DVR (default = 5445)
- **ID**: Username. The default username for the DVR is **Admin**.
- **Password**: Password for the user ID. For ID Admin, the default password is **1111**.

6. Click **Connect** to connect to your DVR. After connecting to the DVR, the connection status will appear in the Status frame, and the DVR camera views will appear in the view screen.



7.2 Setup

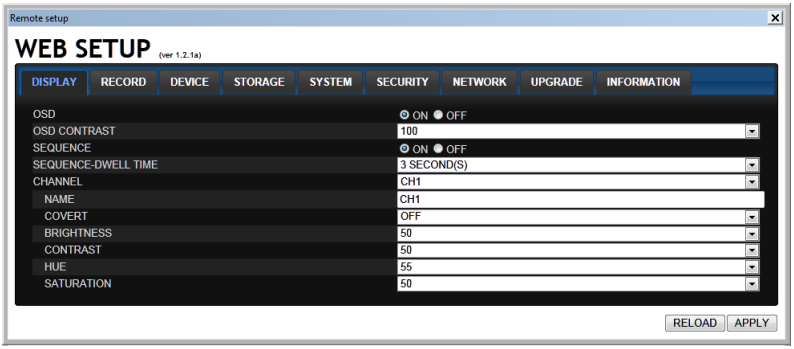
The Setup feature enables you to configure your DVR through Web Client. The Setup menu system includes the following submenus: Display, Record, Device, Storage, System, Network, and Upgrade. Components in these submenus are similar to those in the DVR SETUP submenus (refer to Section 3 for definitions).

To enter the Setup menus after connecting to your DVR, click the **Setup** button in the lower right corner of the window, enter the **Admin** password in the WEB SETUP window, then click **LOGIN**. After several seconds, the DISPLAY menu will appear.

After making changes to a menu, click the **APPLY** button. To revert to the current settings (the original settings or the settings during the previous APPLY). click **RELOAD**. To exit the Setup menus, click the ☒ icon in the upper right corner to close the window.

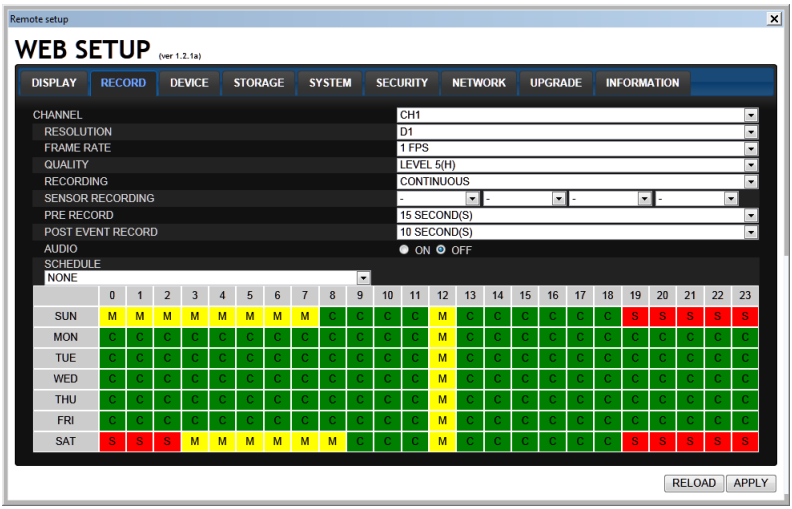
7.2.1 Setup DISPLAY

Use the Display submenu to setup the sequential viewing of the channel and adjust the video quality of the display.



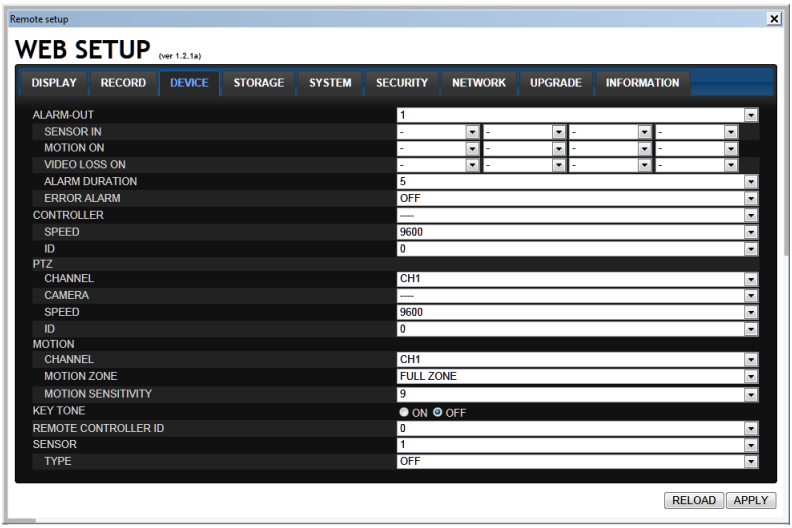
7.2.2 Setup RECORD

Use the Record submenu to setup the recording mode for each camera channel.



7.2.3 Setup DEVICE

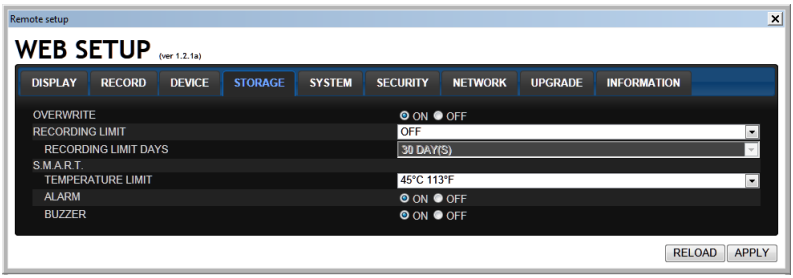
Use the Device submenu to setup the Device, Alarm out, PTZ, and Spot Out configuration.



In the setup window above, selecting a partial MOTION ZONE opens an arrayed graphic where the motion detect areas of the corresponding channel video image can be selected.

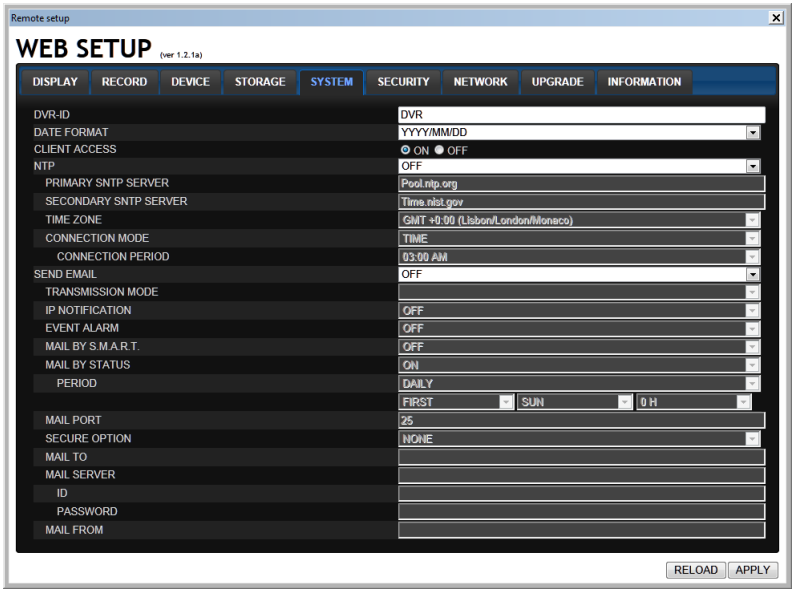
7.2.4 Setup STORAGE

Use the Storage submenu to setup the recording configuration of the DVR HDD.



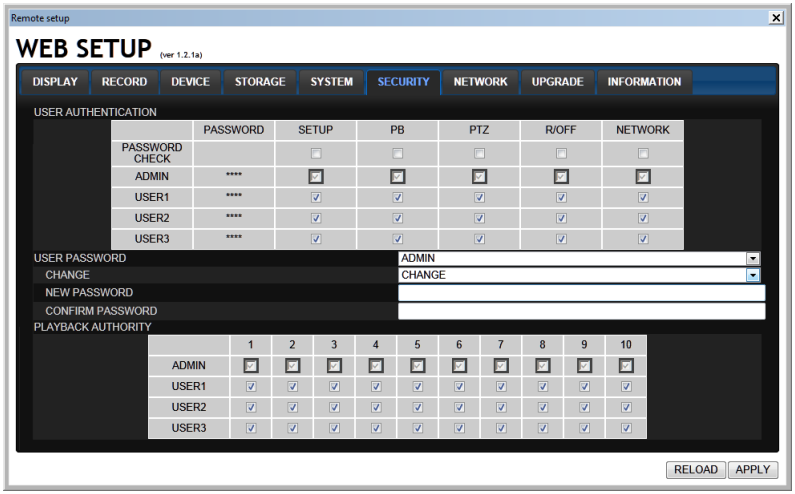
7.2.5 Setup SYSTEM

Use the System submenu to setup the system ID and access control, Date / Time, Send Email configuration, and NTP server access credentials.



7.2.6 Setup SECURITY

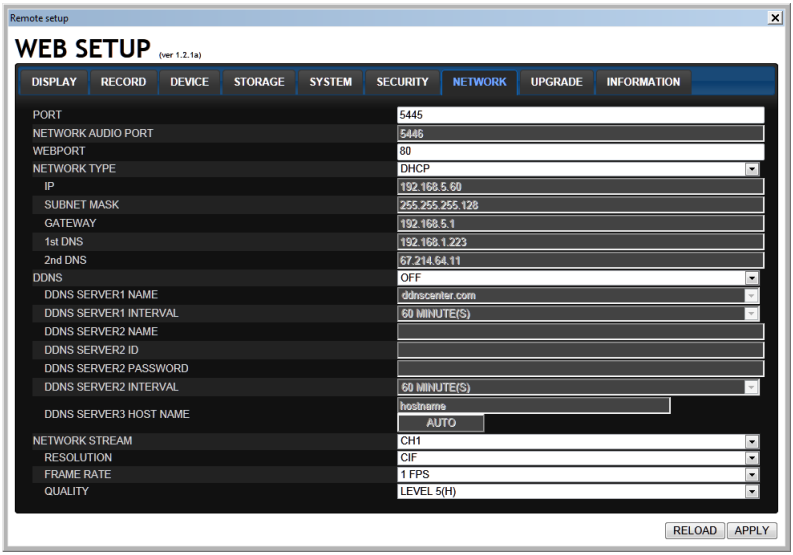
Use the Security submenu to configure system permissions for each user ID.



In the window above, the CHANGE PASSWORD option was selected.

7.2.7 Setup NETWORK

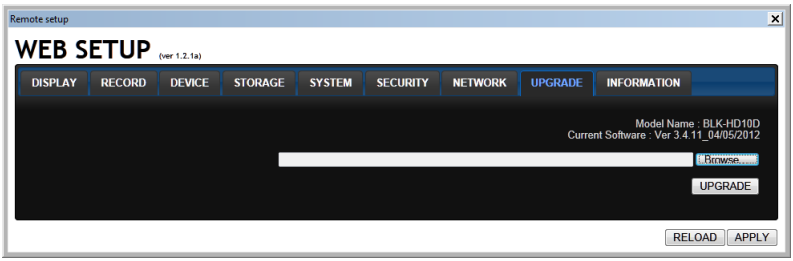
Use the Network submenu to setup the Network IP address, subnet, DNS/DDNS configuration, and ports assigned to the DVR. The screen shown below includes the setup options for DHCP networks. The screen for configuring static ethernet settings for your DVR is similar; it includes fields for the static IP addresses.



In the window above, the DHCP option was selected.

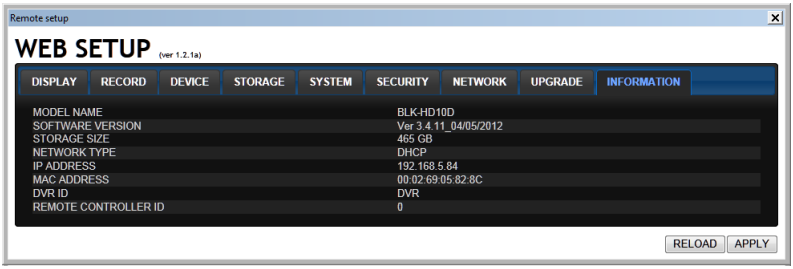
7.2.8 Setup UPGRADE

Use the Upgrade submenu to remotely install new firmware into the DVR.



7.2.9 Setup INFORMATION

Use the Information screen to show useful information about the DVR. Information shown here cannot be changed from this display.



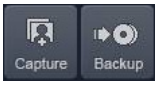
7.3 DVR Search

In Search mode, you can watch video recorded by your DVR, backup video clips, and capture still images from recorded video. To switch to Search mode, click the **Search** button on the Live mode display.

WebViewer Search window

Table 22. Web Client Search window components

Button	Function	Description
2012-03-28 00:00:00 192.168.5.60	TIMESTAMP	Timestamp window. When Web Client is not connected, it shows the PC time. When Web Client is connected and showing live video, it indicates the DVR timestamp. When Web Client is in search mode or playing video, it shows the timestamp of the video frame.
Disconnect	DISCONNECT	Used to initiate a connection to a DVR, or disconnect from a DVR.
Live	LIVE / SEARCH	Used to switch from the search mode window and the live mode window.

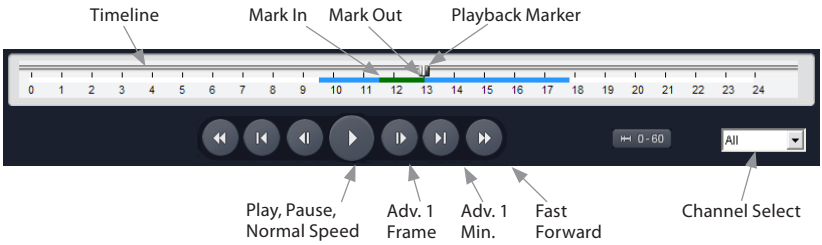
Button	Function	Description
	CHANNEL SELECT	Used to select and display one channel.
	SPLIT SCREEN SELECT	Used to select the screen split: 2x2, 3x3, 4x4
	MARK IN / MARK OUT	Use these buttons to mark the starting point and ending point of video clips you want to play or backup. The marked clip is colored green.
	CAPTURE/BACKUP	**CAPTURE**: use to save a snapshot of the current screen **BACKUP**: use to backup recorded video.
	CALENDAR	On the calendar frame, video was recorded on days colored light blue. Click on the day for which you want to search video. The day selected is marked in dark blue.

7.3.1 Playing recorded video

1. Connect to the DVR (see above).

2. If the Web Client is in Live mode, click **Search** to open the Search window.

3. In the calendar frame, click the day when the video you want to play was recorded. Sections of the timeline highlighted in blue indicate that live video was recorded on that channel at that time.


Timeline
Mark In
Mark Out
Playback Marker
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
0 - 60
All
Play, Pause, Normal Speed
Adv. 1 Frame
Adv. 1 Min.
Fast Forward
Channel Select

4. On the timeline, drag the playback marker to the time at which you want to play video, then click the **Play** button. The exact time position of the marker is shown in the upper-left corner of the Search window.

5. To stop playing the video, click **Stop**.

7.4 Backup recorded video

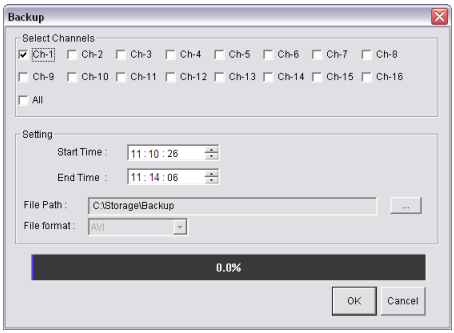
Video clips (sections of video tracks) can be backed up and saved for playback on other devices. To backup a video clip, first determine the start time (From), the end time (To), and the channel of the recorded video you want to backup.

1. Playback the recorded video you want to backup.

2. While watching the video, determine the exact starting timestamp of the video clip you want to backup. Stop the playback, then click the **Mark In** button.

3. Playback the video or drag the playback marker to find the ending timestamp of the video clip you want to backup. Stop the playback, then click the **Mark Out** button. The timeline will be green for the section of the video that is marked.

4. Click **Backup** to open the backup menu. In the Backup window, edit the **From** (starting timestamp), **To** (ending timestamp), and **File** (save to location) fields as needed.



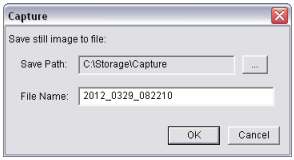
Select the **Channel** of the video from the dropdown list, then click **Ok** to begin the backup operation. A progress bar will appear showing the status of the backup. Allow the backup operation to complete before continuing.

5. To play the backed-up video file, open the file in an .AVI file compatible video player.

7.4.1 Capture

A snapshot of the screen image can taken in live mode, during pause, in playback mode, or when video playback is stopped. To take a snapshot:

1. When connected to your DVR, click **Capture**. The parameter screen will open. The timestamp of the image is encoded in the default file name.



2. Click **Ok**. A snapshot of the screen image will be saved in .BMP format.

SECTION 8
Remote Client Software

Remote Client software is used to remotely monitor a single DVR. It can be used to display live images from your cameras, search for and play back recorded data, monitor alarms, control PTZ devices, and capture and backup data.

NOTE *In a high bandwidth network, a maximum of four users can access one DVR simultaneously. In a low bandwidth network it is recommended that only one user access the DVR at a time.*

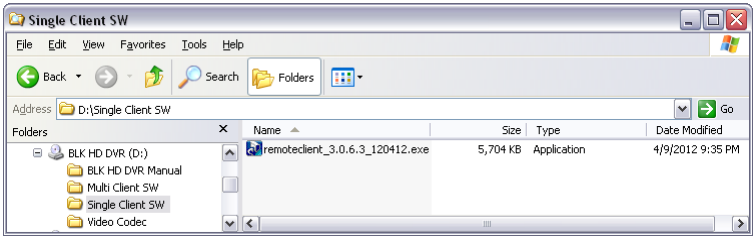
8.1 PC Requirements

For the Remote Client software, the minimum PC requirements are:

- **CPU**: Intel® Pentium® IV, 2 GHz or higher
- **Memory**: 512MB (1GB or larger is recommended.)
- **VGA memory**: 128 MB
- **Resolution**: 1024 x 768
- **Disk space**: 1GB
- **Network**: 10/100BASE-T
- **Supported operating systems**: Microsoft® Windows® 2000, Windows XP Professional, Windows XP Home, Windows Vista (not all versions of Windows Vista are supported), Windows 7
- **DirectX®**: DirectX 8.1 or higher

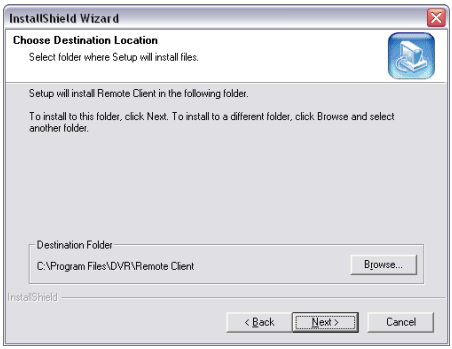
8.2 Installing the Remote Client

1. Insert the provided CD in the CD drive. Open a file list of the CD, then double-click "remoteclient_(xxxxxx).exe" to install the file.

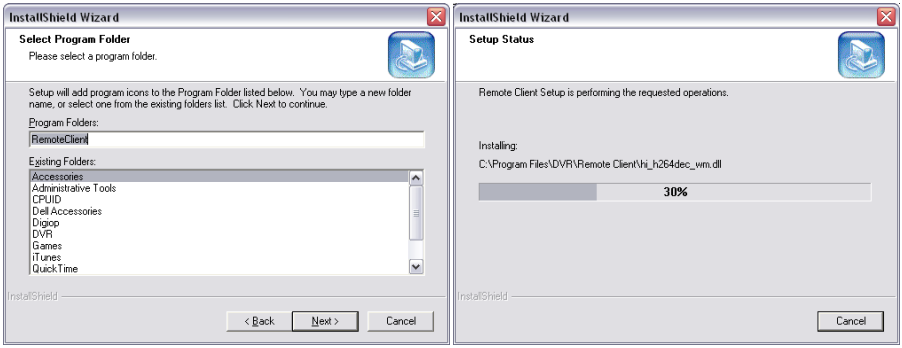


CD Contents (typical)

2. Browse for the preferred destination location in the InstallSheild Wizard window, then click "**Next**".


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install Remote Client in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\DVR\Remote Client
Browse...
InstallShield
< Back
Next >
Cancel

3. Select the preferred program folder, then click "**Next**". The setup status screen will open.



4. Select a Program Folder, then click **Next**. The Remote Client will be installed and a Remote Client icon will appear on the desktop.

5. Close the InstallShield window.

8.3 Remote Client initial display

To open the Remote Client, double-click the icon on the desktop, or open it through the Windows **Start** menu.

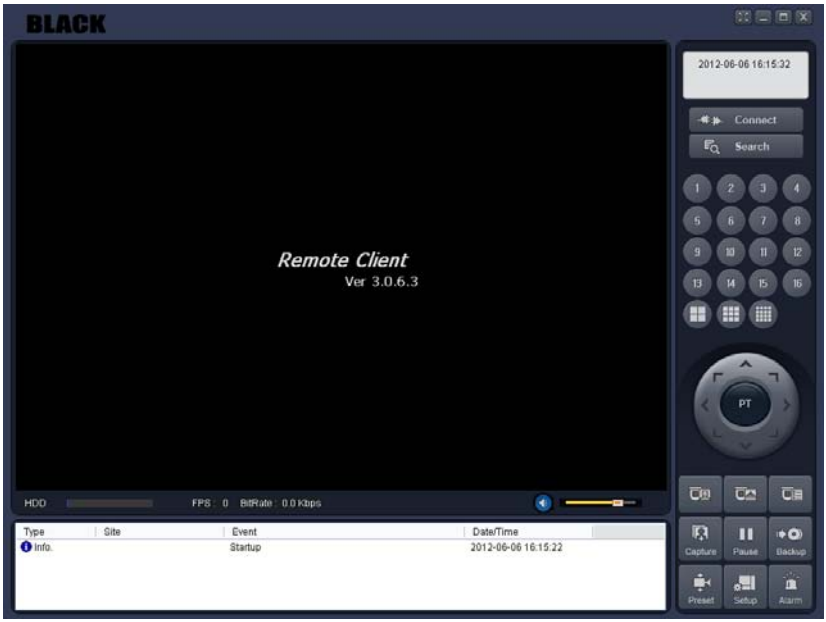


Table 23. Remote Client window components

Button	Function	Description
	WINDOW CONTROL	Buttons for expanding the image to full screen (press **ESC** to return to normal viewing), minimizing the window, expanding window to full screen, and closing the window.
	DATE & TIME	Displays the current date and time.
	CONNECT/DISCONNECT	Connect/disconnect a DVR.
	SEARCH/LIVE	Switches from Live mode to Search mode.
	KEYPAD	Select a channel. Click the channel button, or double-click the channel on the Live view screen.
	SPLIT-SCREEN MODE	Select a split-screen mode 4-, 9-, or 16-channel display.,

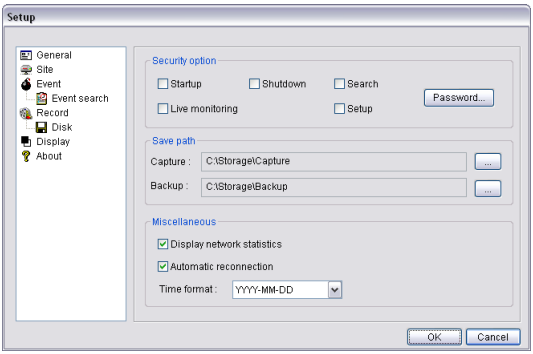
Button	Function	Description
	PAN/TILT - /ZOOM/ FOCUS	Control the PAN/TILT and ZOOM/FOCUS features on the remote camera. To swirtch between the PT and ZF dials, click the button in the center.
	PTZ camera functions: Scan, Tour, Menu Controls	These icons invoke Scan, Tour and Menu Controls setup in a PTZ camera.
	FUNCTIONS	**CAPTURE**: Capture a still image of the screen. **PLAY/PAUSE**: Play/freeze live video **BACKUP**: Initiate backup operation (record on/off). **PRESET**: Select camera position preset. **SETUP**: Open the setup menus. **ALARM**: The ON/OFF button of the alarm output of the DVR. When an alarm is active, this button is red.
	HDD USAGE	DVR HDD space used Indicator.
	NETWORK BANDWIDTH	Shows the transferred frames and network bandwidth.
	AUDIO	Adjust the volume. Click the (speaker) icon on the left to mute the volume.
	LOG WINDOW	

8.4 Setup

The Remote Client includes several setup options, including presets for the DVRs you want to connect to. To open the setup menus, click the **Setup** button.

8.4.1 General Setup

When the Setup menu is opened, the **General** options are displayed.



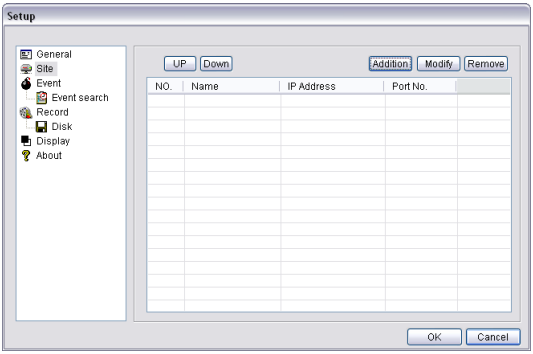
General options include:

- **Security Option**: Set a password for security options. If set, you must enter the password when accessing any of the security functions.
- **Save Path**: Specify the location backup and still image captures are saved.
- **Automatic Reconnection**: If a user selects this function, the client will automatically try to connect to the previously connected IP address if the network connection is lost.
- **Time Format**: Select the format for displaying the time.

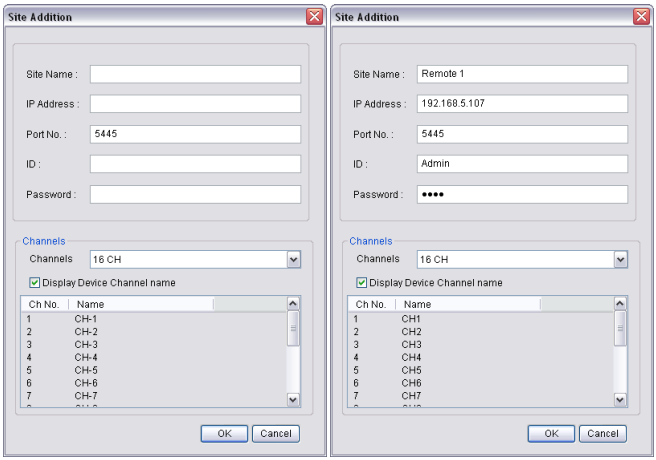
After entering all fields in the **Site Additions** window, click **OK** to save your entries and exit the Setup menus.

8.4.2 Site Setup

To open the Site menu, click the **Site** entry in the left frame of the **Setup** window.



Initially, no site (DVR) is listed. To add a site, click the **Addition** button.



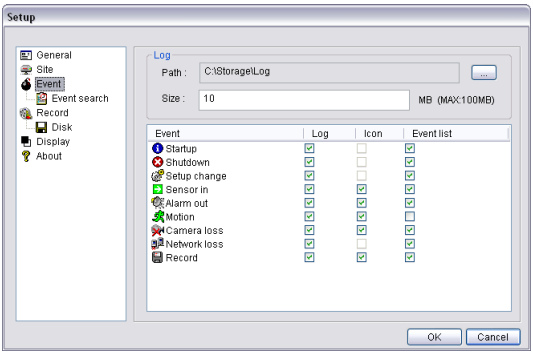
In the Site Addition menu, enter:

- **Site Name**: Enter an appropriate name for the DVR you will connect to.
- **IP Address**: Enter the IP address and web port number (if other than 80).
- **Port No**: Enter the port number for the DVR. The default DVR port number is 5445.
- **ID**: Enter your login ID (login name).
- **PASSWORD**: Enter the password associated with the login ID. The default login ID and password are **Admin** and **1111**.
- **Channels**: Enter the number of channels supported by your DVR (4, 8, or 16).

After entering all fields in the **Site Additions** menu, click **OK** to save your entries and exit the Setup menus.

8.4.3 Event Setup

To open the Event menu, click the **Event** entry in the left frame of the **Setup** window. The Event menu allows you to configure how the client will display and log event information received from the DVR.



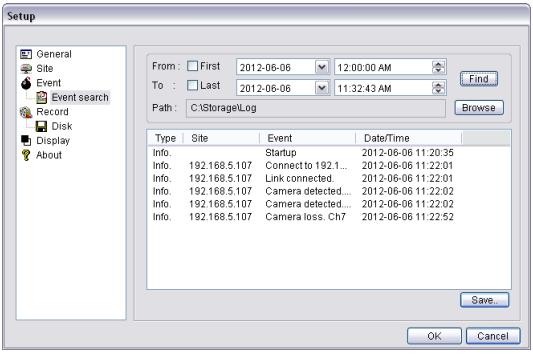
In the Event Setup menu, set the following:

- **Log Path**: Click the browse button to identify where event log files are saved.
- **Log Size**: Set the maximum size in megabytes of the event log file space.
- **Event Log**: For each event type, select the checkbox to save the event data in the log file.
- **Event Icon**: For each event type, select the checkbox to display the event on live video.
- **Event List**: For each event type, select the checkbox to show the event in the Event List in live mode.

After entering all fields in the **Site Additions** menu, click **OK** to save your entries and exit the Setup menus.

8.4.4 Event Search Setup

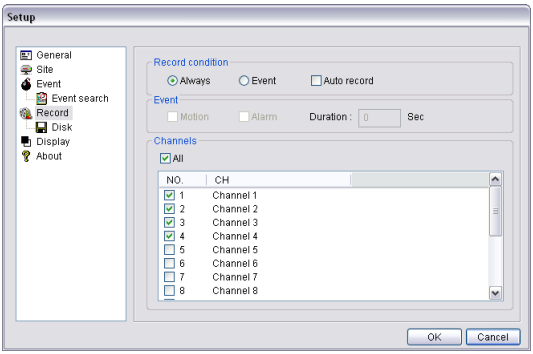
The Event Search window is used to display a list of the logged events that occurred during a specified time period. Use the dropdown lists to choose the **From** and **To** times, then browse to the location of the log file. To save the list of events to another file, click **Save**. An event timestamp can be used to easily find the video recordings of the event.



After entering all fields in the **Event Search** menu, click **OK** to save your entries and exit the Setup menus.

8.4.5 Record Setup

To open the Record menu, click the **Record** entry in the left frame of the **Setup** window. The Record menu allows you to configure the conditions that trigger live video recording.



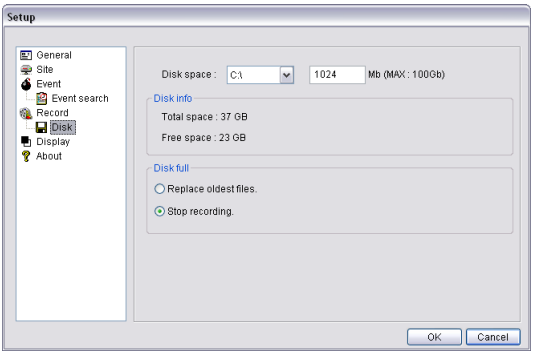
In the Record menu, set the following:

- **Record Condition**: Select **Always** or **Event**, then **Auto record**.
- **Event**: If Event was selected as the Record Condition, select the type of event and the duration of the recording.
- **Channels**: Select the channels to be recorded during the conditions selected above.

After entering all fields in the **Record** menu, click **OK** to save your entries and exit the Setup menus.

8.4.6 Record Disk Setup

To open the Record Disk menu, click the **Disk** entry in the left frame of the **Setup** window. Use the Disk menu to select the location where recorded data is saved, and the amount of space on the disk to allocate for recordings.



In the Disk menu, select the storage drive from the dropdown list, then enter the size of the storage buffer in megabytes. Choose either **Replace oldest files** or **Stop recording** when the disk is full. Click **OK** to save your entries and exit the Setup menus.

8.4.7 Display Setup

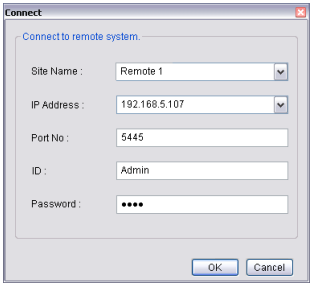
Use the Display Setup menu in multi-monitor systems to correct the image on a secondary monitor. Use of this feature may degrade the performance of the DVR.

8.4.8 About

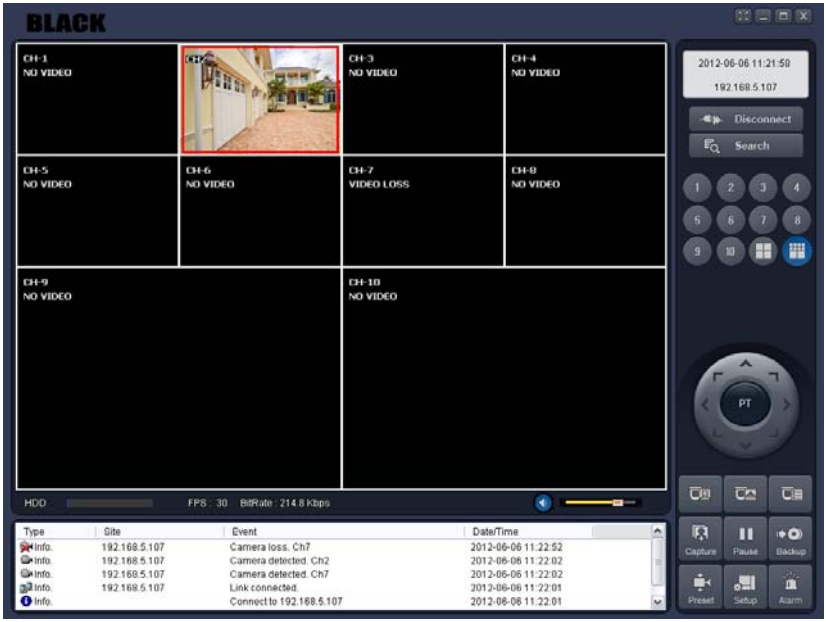
The About window is an informational display that shows the version and build level of the Remote Client Software, and the copyright notice.

8.5 Connecting to a DVR

To connect to a DVR, click the **Connect** button. The **Connect** dialog window will open. The **Connect** window is filled by the entry made in the **Setup Site** menu.



In the **Connect** window, use the dropdown lists to select the DVR you want to connect to, then click **OK**. A Live view window from your DVR will be displayed.



8.5.1 Bidirectional Audio

The Remote Client supports bidirectional audio between the client PC and a DVR. To use bidirectional audio, the client PC must have a microphone and speakers. At the DVR, connect a microphone to the audio-in connectors, and a pair of amplified speakers to the audio-out connectors.

8.6 Remote Search mode and functions

After connecting to the DVR, the Remote Client can be used to search for and playback recorded video. Video clips can then be backed up to a USB drive or local hard disk. To open the **Search** screen, click the **Search** button.

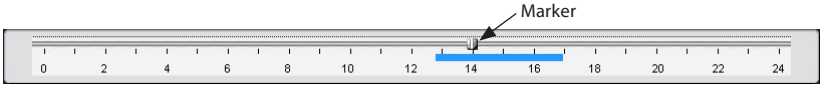
Table 24. Remote Client Search window components

Button	Function	Description
	WINDOW CONTROL	Buttons for expanding the image to full screen (press **ESC** to return to normal viewing), minimizing the window, expanding window to full screen, and closing the window.
	DATE & TIME	Displays the current date and time.
	CONNECT/DISCONNECT	Connect/disconnect network connection.
	LIVE/SEARCH	Switches from search mode to live mode.
	KEYPAD	Select a channel. Click the channel button, or double-click the channel on the live view screen. NOTE: The number of channel buttons shown indicates the capacity of the DVR (in this example, 10-channel DVR)
	SPLIT-SCREEN MODE	Select a split-screen mode 4-, 9-, 10-, or 16-channel display., Shown here for a BLK-HD10D (10 channel DVR)

Button	Function	Description
	CALENDAR	In the calendar frame, dates with recorded video are colored in light blue. Click the date of the recorded video you want to find or play.
	FUNCTIONS	**CAPTURE**: Capture a still image of the screen/camera. **MARK IN**: Set the start time at the marker position **MARK OUT**: Set the end time at the marker position **SETUP**: Display the setup screen of the network viewer. **BACKUP**: Backup the video clip from MARK IN time to MARK OUT time
	HDD USAGE	DVR HDD space used Indicator.
	AUDIO	Adjust the volume. The audio is on or muted by clicking the speaker icon.
	TIMELINE Bar	Displays a timeline for the date selected in the calendar frame. Time spans when video is recorded are marked in blue. To expand the display for an hour when video was recorded, drag the marker to the hour you want to expand, then click the **0 - 60** button (located below the time line).
	PLAYBACK BUTTONS	Use the playback buttons to control video playback. The playback buttons are labeled with the standard icons used for video play control.

8.6.1 Searching for and playing video recorded by the DVR

1. At the Remote Client, connect to the DVR.
2. Press the **SEARCH** button. The client will change from live mode to search mode.
3. In the calendar frame, click the date when video was recorded.
4. Drag the marker on the timeline to the time at which you want to play recorded video. To expand the hour within which the marker lies, click the **0 - 60** button below the time line.



5. Click the **PLAY** button to begin playing video at the marker position.

8.6.2 Backing up video from the DVR on the Remote Client PC

Video recorded in the DVR can be backed up on the PC where the Remote Client is installed. Video clips are saved in AVI format.

SECTION 8: REMOTE CLIENT SOFTWARE

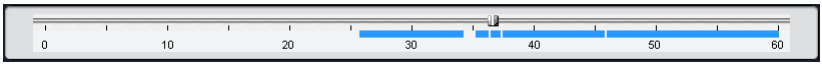
1. At the Remote Client, connect to the DVR.

2. Click the **SEARCH** button. The client will change from live mode to search mode.

3. In the calendar frame, click the date when the video was recorded.

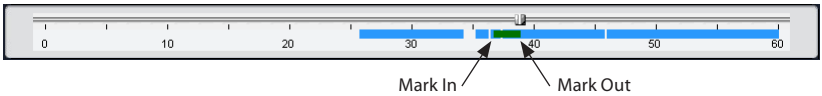
4. Drag the marker on the timeline to the time at which you want to play recorded video.

To expand the hour within which the marker lies, click the **0 - 60** button below the time line.

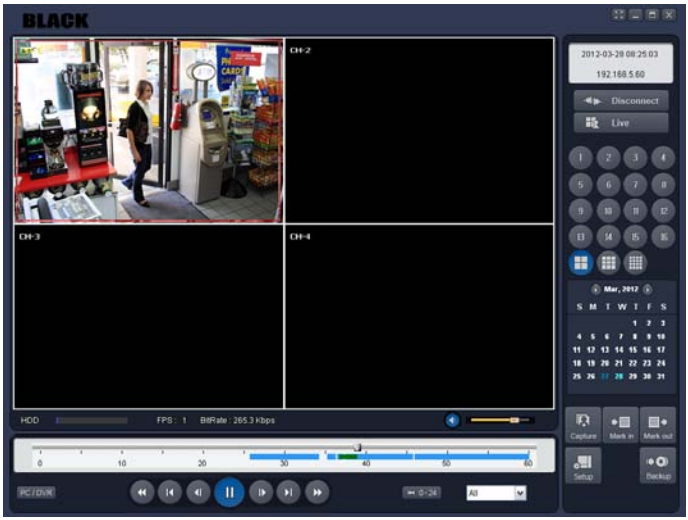


5. Play the video to determine the time where you want to start backing up a clip, then pause the playback and click the **MARK IN** button.

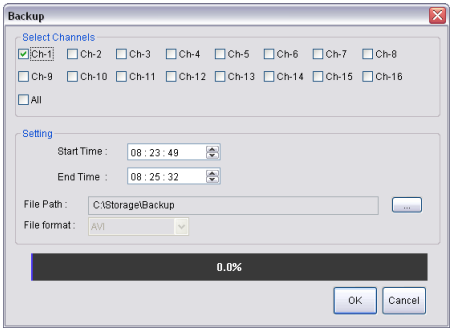
6. Continue playing the video to determine the time where you want to end the clip, then stop the playback and click the **MARK OUT** button. The time span between the MARK IN and MARK OUT times will be highlighted in dark green.



7. Click the **PLAY** button to view the video clip you marked.



8. To backup the video clip you marked, stop the video playback, then press the **BACKUP** button. The **Backup** menu window will open.



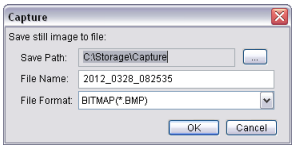
9. In the **Backup** menu, select the options you want, then click **OK**.

10. A pop-up window will appear when the backup operation is complete. Click **OK** to close the backup operation.

NOTE *Video backup can take several minutes to complete, depending on the number of channels selected and the duration of the clip.*

8.6.3 Image capture

A still image of a screen can be captured in either Live mode or Search mode, then saved as a BMP or JPEG file. To capture a still image of the screen, click the **Capture** button. A Capture menu will open.



In the **Capture** menu, select the options you want, then click **OK**. An image of the screen will be saved at the location you specified.

SECTION 9
Multi Client Software

Multi Client software can monitor several DVRs (sites) simultaneously. It can display to up 256 live video channels on one screen, playback video clips, control PTZ cameras, monitor alarms, and be configured with 2-way audio communication through the DVR.

NOTE *In a high bandwidth network, a maximum of four users can access one DVR simultaneously. In a low bandwidth network it is recommended that only one user access the DVR at a time.*

9.1 PC Requirements

For the Multi Client software, the minimum PC requirements are:

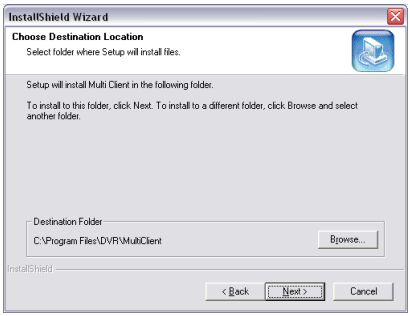
- **CPU**: Intel® Pentium® IV, 2 GHz or higher
- **Memory**: 512MB (1GB or larger is recommended.)
- **VGA memory**: 128 MB
- **Resolution**: 1024 x 768
- **Disk space**: 1GB
- **Network**: 10/100BASE-T
- **Supported operating systems**: Microsoft® Windows® 2000, Windows XP Professional, Windows XP Home, Windows Vista (not all versions of Windows Vista are supported), Windows 7
- **DirectX®**: DirectX 8.1 or higher

9.2 Installing the Multi Client

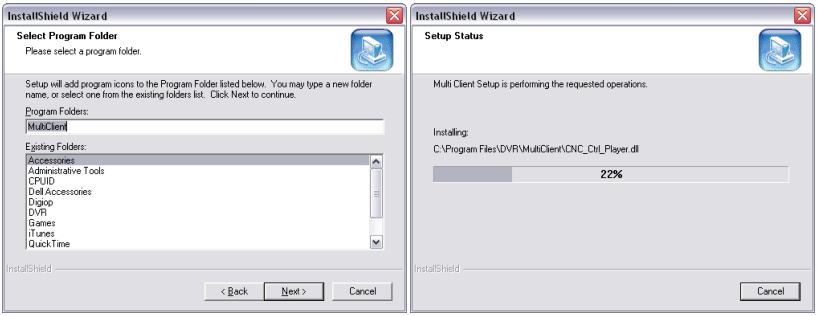
1. Insert the provided CD in the CD drive. Open a file list of the CD, then double-click "multiclient_(xxxxxx).exe" to install the file.

CD Contents (typical)

2. Browse for the preferred destination location in the InstallSheild Wizard window, then click "**Next**".


InstallShield Wizard
Choose Destination Location
Select folder where Setup will install files.
Setup will install Multi Client in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\DVR\MultiClient
Browse...
InstallShield
< Back
Next >
Cancel

3. Select the program folder and click "**Next**". The setup status screen is displayed.



4. Select a Program Folder for the **Start** menu, then click **Next**. The Multi Client will be installed and a "Multi Client" icon will be displayed on the desktop.

5. Close the InstallShield window.

9.3 Multi Client initial display

To open the Multi Client, double click the icon on the desktop or open it through the Windows **Start** menu.

Table 25. Multi Client screen components

Button	Function	Description
	WINDOW CONTROL	Buttons for expanding the image to full screen (press **ESC** to return to normal viewing), minimizing the window, expanding window to full screen, and closing the window.
	LOCAL PLAYBACK	Search for video files recorded on the local PC.
	REMOTE PLAYBACK	Search for video files recorded on the DVR.
	SITE CONTROLS: Refresh, Site Addition, Site Delete, Net Finder	Icons in the upper-right corner of the screen. Applies control to sites selected in the site list below. These icons link to: refresh thumbnail, site addition, site delete, net finder (site modify)
	SITE LIST	List of sites added to the DVR. The site list appears in the pane beneath the site controls icons.
	CONNECT	Click to connect to sites selected in the frame above.
	DISCONNECT	Click to disconnect to sites selected in the frame above.
	SETUP	Open the setup menus

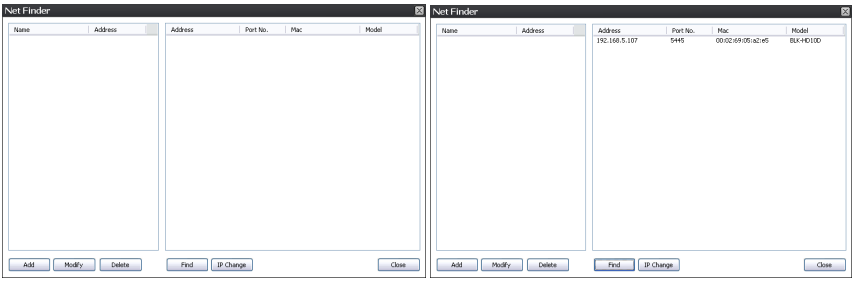
Button	Function	Description
	CAPTURE	Capture a still image of the screen.
	EVENT LIST	Opens the list of events logged by the Multi Client.
	PAUSE	Freezes the screen
	ALARM	
	RECORD	Enable/disable recording of live video.
	SPEAKER, MICROPHONE	Controls for adjusting the volume of the speaker and microphone.
	PTZ camera functions: Camera Preset, Scan, Tour, Menu Controls	These icons invoke Preset, Scan, Tour and Menu Controls setup in the PTZ camera.
	PAN/TILT - /ZOOM/ FOCUS	Control the PAN/TILT and ZOOM/FOCUS features on the remote camera. To switch between the PT and ZF dials, click the button in the center.
	CHANNEL SPLIT	Use to select the number of channels (1/4/9/16) shown on the screen.
	SITE SPLIT	Use to select the number of DVRs (1/4/9/16) shown on the screen.

9.3.1 Using Net Finder

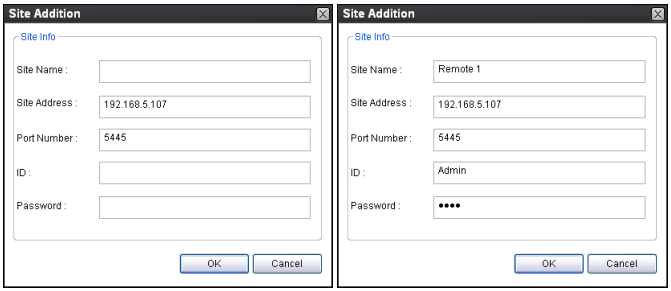
The Net Finder feature discovers BLK-HDxxD DVRs on the subnet, and can be used to quickly add it to Multi Client. To use Net Finder:

1. Click the Net Finder icon in the upper left corner of the window.

2. In the Net Finder window, click the Find button to list the Multi Client compatible DVRs on your network. Net Finder will list the DVRs added to Multi Client in the left frame, and DVRs discovered on the network in the right frame.



3. In the Net Finder right pane, click the DVR you want to add, then click the **Add** button.

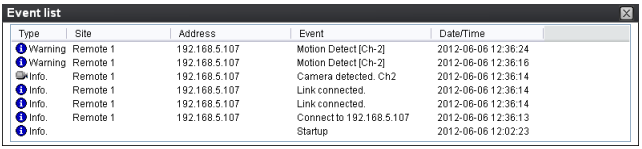


In the Site Addition window, add a **Site Name** and an administrative **ID** and **Password**. In the screen above, the site name entered is Desk.

4. Click **OK** to save your settings. The site you added will appear in the left frame of the Net Finder window, and the site list frame on the left side of the Multi Client window.

9.3.2 Event List

Clicking the Event List icon opens the Event List window for the current Multi Client session.

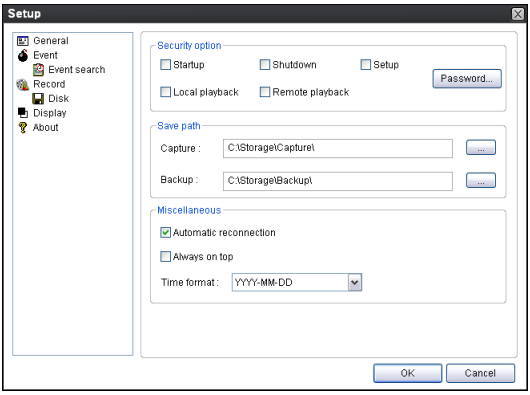

Event list
Type
Site
Address
Event
Date/Time
Warning Remote 1 192.168.5.107 Motion Detect [Ch-2] 2012-06-06 12:36:24
Warning Remote 1 192.168.5.107 Motion Detect [Ch-2] 2012-06-06 12:36:16
Info. Remote 1 192.168.5.107 Camera detected. Ch2 2012-06-06 12:36:14
Info. Remote 1 192.168.5.107 Link connected. 2012-06-06 12:36:14
Info. Remote 1 192.168.5.107 Link connected. 2012-06-06 12:36:14
Info. Remote 1 192.168.5.107 Connect to 192.168.5.107 2012-06-06 12:36:13
Info. Startup 2012-06-06 12:02:23

9.4 Setup

The Multi Client includes several setup options. To open the setup menus, click the **Setup** button.

9.4.1 General Setup

When the Setup menu is opened, the **General** options are displayed.



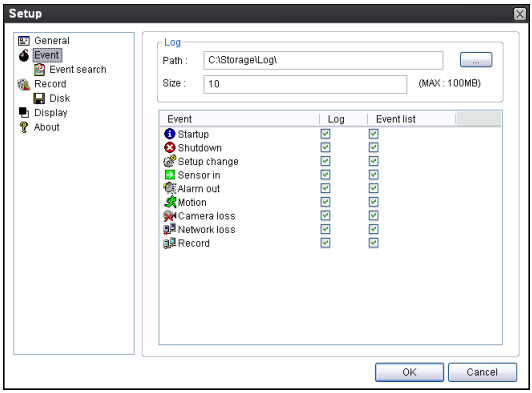
General options include:

- **Security Option**: Set a password for security options. If set, you must enter the password when accessing selected security functions.
- **Save Path**: Specify the location backup and still image captures are saved.
- **Automatic Reconnection**: If a user selects this function, the client will automatically try to reconnect to the previously connected IP address if the network connection is lost.
- **Time Format**: Select the format for displaying the time.

After entering all fields in the **Site Additions** window, click **OK** to save your entries and exit the Setup menus.

9.4.2 Event Setup

To open the Event menu, click the **Event** entry in the left frame of the **Setup** window. The Event menu allows you to configure how the client will display and log event information received from the DVR.



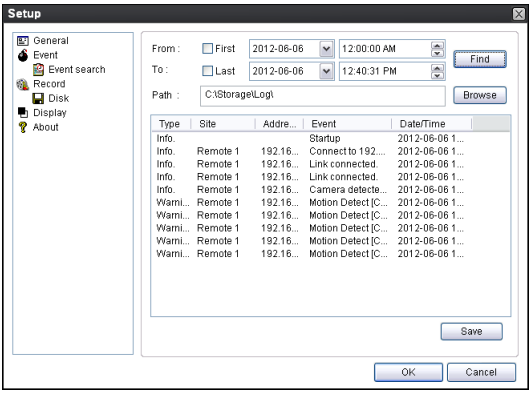
In the Event Setup menu, set the following:

- **Log Path**: Click the browse button to identify where event log files are saved.
- **Log Size**: Set the maximum size in megabytes of the event log file space.
- **Event Log**: For each event type, select the checkbox to save the event data in the log file.
- **Event List**: For each event type, select the checkbox to show the event in the Event List in live mode.

After entering all fields in the **Site Additions** menu, click **OK** to save your entries and exit the Setup menus.

9.4.3 Event Search Setup

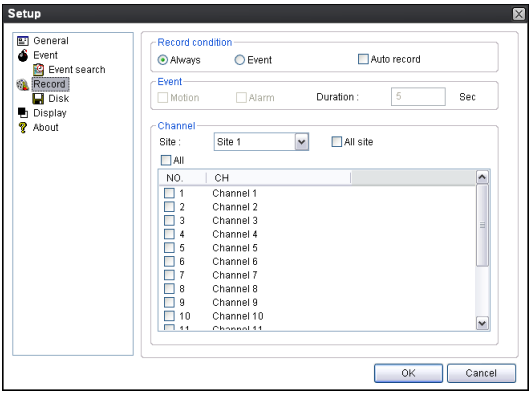
The Event Search window is used to display a list of the logged events that occurred during a specified time period. Use the drop-down lists to choose the **From** and **To** times, then browse to the location of the log file. Click **Find**. To save the list of events to another file, click **Save**. An event timestamp can be used to easily find the video recordings of the event.



After entering all fields in the **Event Search** menu, click **OK** to save your entries and exit the Setup menus.

9.4.4 Record Setup

To open the Record menu, click the **Record** entry in the left frame of the **Setup** window. The Record menu allows you to select the conditions with which live video from the cameras is recorded.



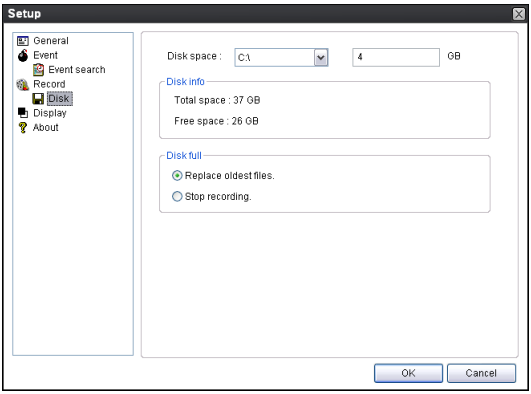
In the Record menu, set the following:

- **Record Condition**: Select **Always** or **Event**, then **Auto record**.
- **Event**: If Event was selected as the Record Condition, select the type of event and the duration of the recording.
- **Channels**: Select the channels to be recorded during the conditions selected above.

After entering all fields in the **Record** menu, click **OK** to save your entries and exit the Setup menus.

9.4.5 Record Disk Setup

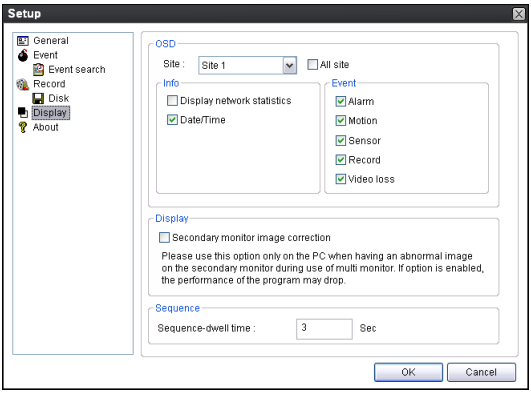
To open the Record Disk menu, click the **Disk** entry in the left frame of the **Setup** window. The Disk menu allows you to select the location where recorded data is saved, and the amount of space on the disk to allocate for recordings.



In the Disk menu, select the storage drive from the dropdown list, then enter the size of the storage buffer in megabytes. Choose either **Replace oldest files** or **Stop recording** when the disk is full. Click **OK** to save your entries and exit the Setup menus.

9.4.6 Display Setup

To open the Display menu, click the **Display** entry in the left frame of the **Setup** window. The Display menu allows you to select the kinds of information and events messages that appear on the scree. Each site you connect to can be configured differently.



After selecting the preferred options in the **Display** menu for each site, click **OK** to save your entries and exit the Setup menus.

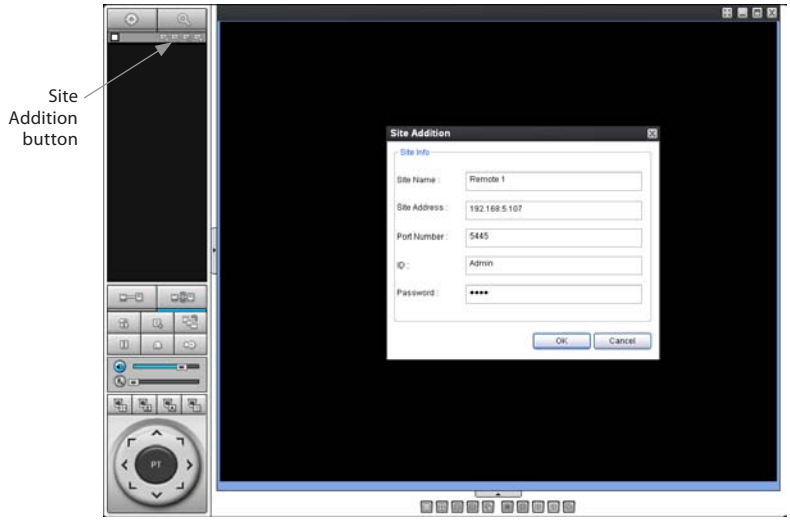
9.4.7 Setup About

The About Setup screen displays the version level of the Multi Client Software. The abbreviated copyright statement is also shown.

9.5 Connecting to a DVR

To connect to a DVR for the first time:

1. Click the **Site Addition** button. The **Site Addition** dialog window will open.

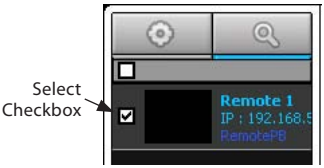


2. In the **Site Addition** menu, enter:

   - **Site Name**: Enter an appropriate name for the DVR you will connect to.
   - I**P Address**: Enter the IP address and web port number (if other than 80).
   - **Port No**: Enter the port number for the DVR. The default DVR port number is 5445.
   - **ID**: Enter your login ID (login name). The default administrator ID is **Admin.**
   - **PASSWORD**: Enter the password associated with the login name. The default administrator password is **1111**.

3. After entering all fields in the **Site Additions** menu (see above) click **OK** to save your entries. An entry for the DVR you added will appear in the site list frame (below the Site Addition icon).

4. Click the checkbox in the entry you added to the site list.



5. Click the **Connect** button to connect to the DVR.

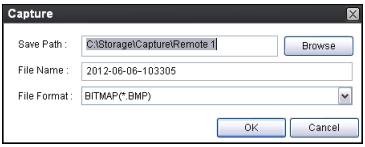
Multi Client DVR Live View

9.5.1 Bidirectional Audio

The Multi Client supports bidirectional audio between the client PC and a DVR. To use bidirectional audio, the client PC requires connections for a microphone and speakers. At the DVR, connect a microphone to the audio-in connectors, and a pair of amplified speakers to the audio-out connectors.

9.5.2 Capture

A still-image of a screen can be captured in either Live mode or Search mode and saved as a BMP or JPEG file. To capture a still image of the screen, click the **Capture** button. A **Capture** menu will open.



In the **Capture** menu, select the options you want, then click **OK**. An image of the screen will be saved at the location you specified. By default, captured images are saved in the directory specified in the **Setup / General** menu. However, the Save Path can be changed in the **Capture** menu if necessary.

9.5.3 Record

Video recording of the live screen can be manually started and stopped by clicking the **Record** button. When video is being recorded, the **Record** button is highlighted blue. To stop recording, click the **Record** button again. By default, recorded video is saved in the path specified in the **Setup / General** menu.

9.6 Remote playback and backup

The Multi Client can be used to search for and playback video clips in the DVR. Video clips can then be backed up to a local USB drive or disk.

NOTE *The Event List may provide valuable information on when alarms and other events occurred. To open the Event List, click the **Events List** button.*

9.6.1 Remote playback

To search for and recorded video from the DVR:

1. At the Multi Client initial screen, connect to the DVR.

2. Click the **Remote playback** button. The client will open a Search mode window.

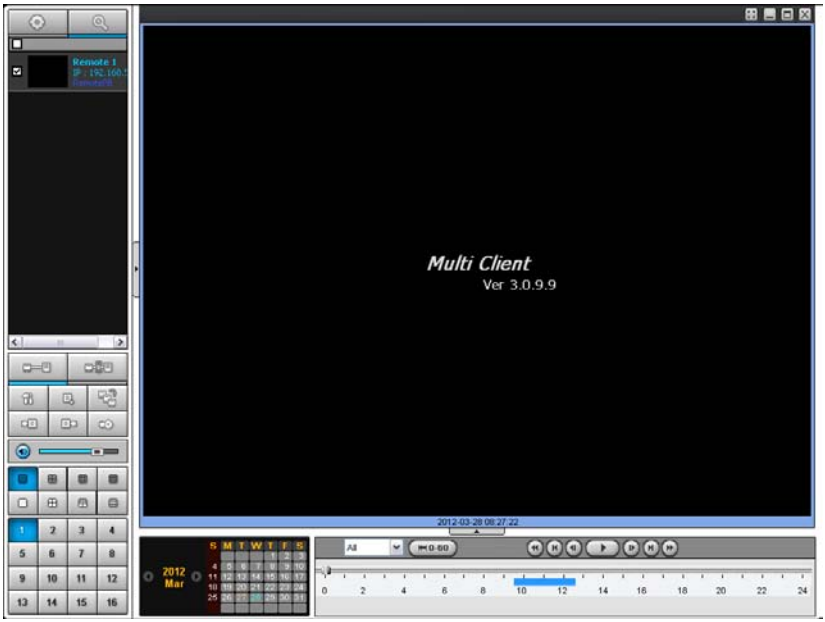


Table 26. Multi Client search window components

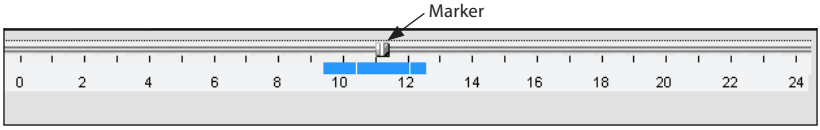
Button	Function	Description
	FUNCTIONS	**SETUP**: Opens the Setup menu **CAPTURE**: Capture a still image of the screen/camera. **EVENT LIS**T: Displays logged DVR events. **MARK IN**: Set the start time at the marker position **MARK OUT**: Set the end time at the marker position **BACKUP**: Opens a menu to backup the section of video between the MARK IN time and MARK OUT time
	AUDIO	Adjust the volume. The audio is on or muted by clicking the speaker icon.
	MULTI-DVR DISPLAY/ MULTI-CHANNEL DISPLAY MODE	Display multiple DVRs Select a split-screen mode 1-, 4-, 9-, 10-, or 16-channel display.,
	Channel select	Select a channel.

Button	Function	Description
	CALENDAR	In the calendar frame, days with recorded video are colored in light tan. Click the date of the recorded video you want to find or play. Dates colored tan have data recorded. The date colored blue is the date selected; the timeline shows when data was recorded on that day.
	TIMELINE Bar	Displays a timeline for the date selected in the calendar frame. Time spans when video is recorded are marked in blue. To expand the display for an hour when video was recorded, drag the marker to the hour you want to expand, then click the **0 - 60** button (located below the time line).
	PLAYBACK BUTTONS	Use the playback buttons to control video playback. The playback buttons are labeled with the standard icons used for video play control.

3. Select the DVR (checkbox) of the unit you want to see recorded video from.

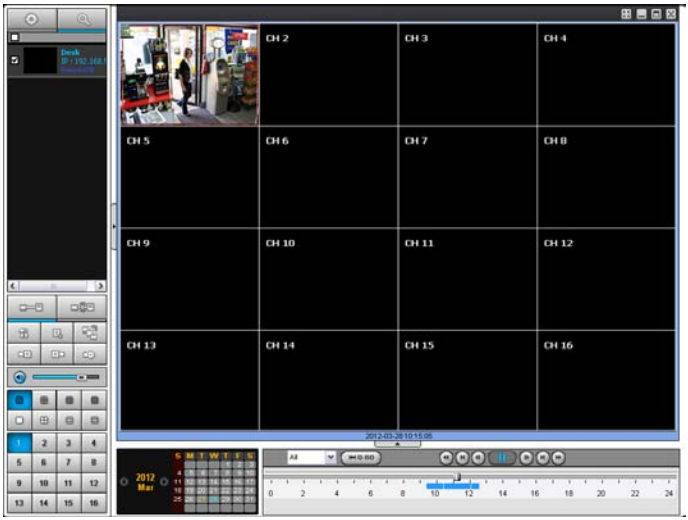
4. In the calendar frame, click the date when the video of interest was recorded.

5. Drag the marker on the timeline to the time at which you want to play recorded video.



To expand the hour within which the marker lies, click the **0 - 60** button above the timeline.

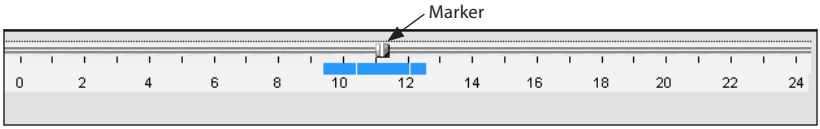
6. Click the **PLAY** button to begin playing video at the marker position.



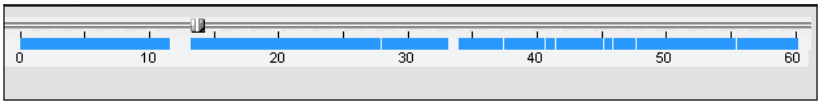
9.6.2 Backing up video from the DVR on the Multi Client PC

Video recorded in the DVR can be backed up on the PC where the Multi Client is installed. Video clips are saved in AVI or NFS format.

1. At the Multi Client, connect to the DVR.
2. Click the **Remote playback** button. The client will change from Live mode to the Search mode.
3. Select the DVR (checkbox) of the unit you want to see video from.
4. In the calendar frame, click the date when the video of interest was recorded.
5. Drag the marker on the timeline to the time at which you want to play recorded video.

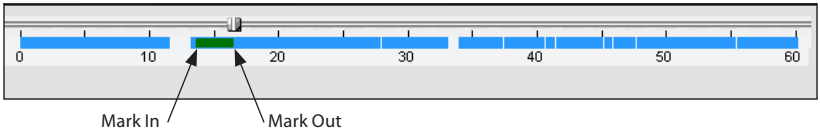


To expand the hour within which the marker lies, click the **0 - 60** button above the timeline.

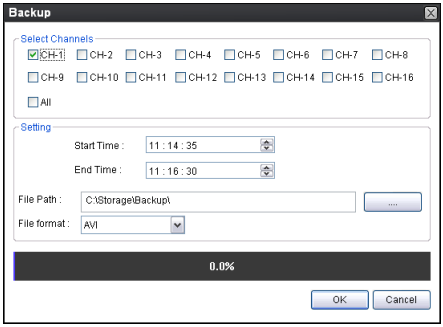


6. Play the video to determine the time where you want to start backing up a clip, then stop the playback and click the **MARK IN** button.

7. Continue playing the video to determine the time where you want to end the clip, then stop the playback and click the **MARK OUT** button. The time span between the MARK IN and MARK OUT times will be highlighted in dark green.



8. To backup the video clip, click the **BACKUP** button. The **Backup** menu window will open.



9. In the **Backup** menu, select the options you want, then click **OK**.

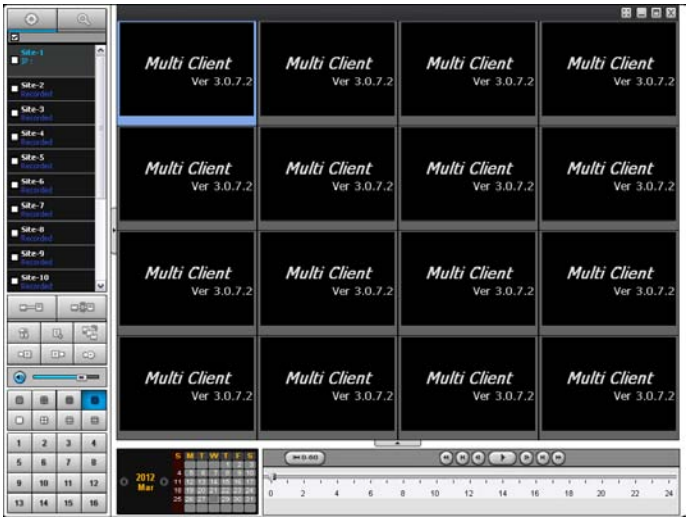
10. A pop-up window will appear when the backup operation is complete. Click **OK** to close the Backup operation.

NOTE *Video backup can take several minutes to complete, depending on the number of channels selected and the duration of the clip.*

9.7 Local playback

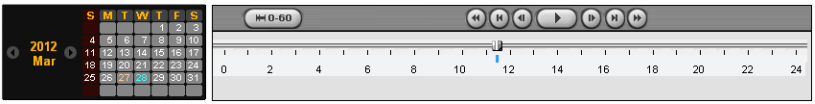
Use the Local Playback feature to play video recorded by the Multi Client record feature and saved on the local PC. To play these recordings:

1. Click the **Local playback** button. The playback window will open.

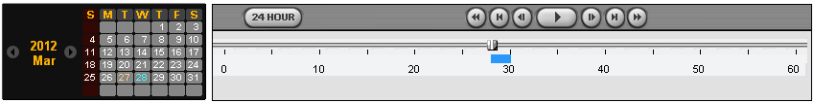


2. In the directory frame, select the site(s) you want to play recordings of. The calendar will indicate which days have recorded video files on the local PC.

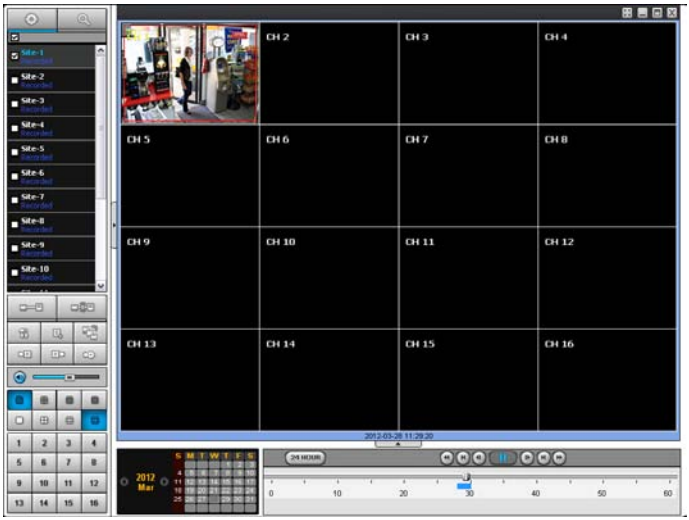
3. Click the day of the recording you want to play, then drag the marker to the time when video was recorded.



Click the 0 - 60 button above the timeline to expand the time scale.



4. Use the video play control buttons above the timeline to play the video.



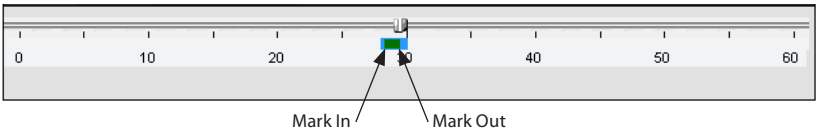
9.7.1 AVI backup during playback

Video recorded by the Multi Client is saved on the local PC in .NDB file format. To save the video clip of a recorded file in .AVI file format (compatible with most media players), perform a backup operation:

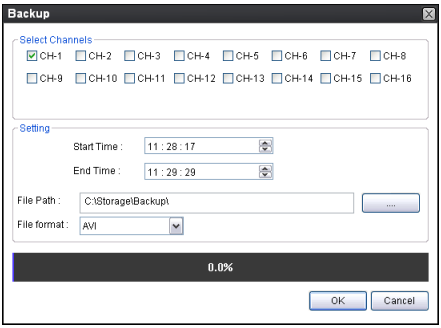
1. Play the video file that contains the segment you want to save in .AVI format. (See **Local playback** above.)

2. Play the video to determine the time where you want to start backing up a clip, then stop the playback and click the **MARK IN** button.

3. Continue playing the video to determine the time where you want to end the clip, then stop the playback and click the **MARK OUT** button. The time span between the MARK IN and MARK OUT times will be highlighted in dark green.



4. To backup the video clip, press the **BACKUP** button. The **Backup** menu window will open.



5. In the **Backup** menu, select the options you want, including the AVI file format, then click **OK**.

6. A pop-up window will appear when the backup operation is complete. Click **OK** to close the Backup operation.

NOTE *Video backup can take several minutes to complete, depending on the number of channels selected and the duration of the clip.*

NOTE *If your media player cannot play the file backed-up in AVI file format, it probably doesn't use the correct CODEC. Update your H.264 CODEC and retry playing the file.*

SECTION 10
Specifications

Table 27. Specifications

ITEM			BLK-HD4D	BLK-HD8D	BLK-HD10D	BLK-HD16D
Recording performance			720p x 48 fps / 1080p * 20 fps	720p x 120 fps / 1080p * 40 fps	Analog: D1 realtime HD: 720p x 60 fps / 1080p x 30 fps	720p x 192 fps / 1080p x 80 fps
Video	Input	Channels	4 channel	8 channel	10 channels	16 channel
		Input level	HDcctv / HD-SDI		8 channels composite, 1.0 Vp-p, 75 Ω plus 2 channels HDcctv/HD-SDI	HDcctv / HD-SDI
	Output	VGA	1 VGA, resolutions up to 1080p,			
		HDMI	1 HDMI, resolutions up to 1080p			
		HD-SDI	--	--	--	1 channels
		LOOP	--	--	8 channels	--
		BNC	--	--	1 channels	--
		Spot	--	--	4 channels	--
Audio	Input / Output		4 channel line input 1 channel line output	4 channel line input 1 channel line output	10 channel line input 1 channel line output	16 channel line input 1 channel line output
	Audio CODEC		G.711 (ADPCM)			
Alarm	Sensor Input (NC/NO selectable)		4 channels	8 channels	10 channels	16 channels
	Alarm Output		1 alarm out	2 alarm out	4 alarm out	4 alarm out
Record	Compression		H.264			
	Multi-Operation		QUADPLEX (Playback/Record/Network/Backup)			
	Analog Resolution		--		D1, half-D1 and CIF 240 fps	--
	HD Resolution	1280 x 720	48 fps	96 fps	60 fps	192 fps
		1920 x 1080	20 fps	40 fps	30 fps	60 fps
	Recording Quality Grade		5 grades			
	Recording Mode		Continuous / Schedule / Motion/ Sensor/ Manual			
	Motion Detection		Motion detection setup by grid			
	Recording by Channel Resolution		Yes			
	Pre Recording		Minimum 15 seconds, maximum 20 minutes			
	Post Recording		Minimum 10 seconds, maximum 60 seconds			

SECTION 10: SPECIFICATIONS

ITEM			BLK-HD4D	BLK-HD8D	BLK-HD10D	BLK-HD16D
Display	Frame Rate (/Sec)		Realtime			
Playback	Multi-Decoding		1, 4	1, 4, 8	1. 4	1, 4, 8, 16
	Playback speed		x1/4 ~ x32	x1/4 ~ x16	x1/4 ~ x32	x1/4 ~ x8
	Search Mode		Timeline, Event, Archive, Log			
Storage	HDD	Interface Type	Serial ATA I			
		Capacity of 1 HDD	2TB (maximum)			
		Internal HDD No.	1 (2 in DVRs without DVD-RW)	1 (2 in DVRs without DVD-RW)	2 (4 n DVRs without DVD-RW)	2 (4 n DVRs without DVD-RW)
	eSATA		1			
	USB Port		2 (front 1, rear 1)			
	Backup	USB Flash drive	Video and still image			
		USB external HDD	Video and still image			
		Network	Video and still image			
User I/F	Menu Display		GUI			
	Input Method		Front panel buttons, remote control, mouse, keyboard			
Serial port	Console (RS-232C)		--			
	PTZ control		1 RS-485	1 RS-485	2 RS-485	2 RS-485
	Termination		1	1	2	2
Network	Dynamic DNS		Yes (free DDNS)			
	Network Interface		10/100/1000BASE-T Ethernet (RJ-45)			
	Network Streaming		640 x 360 x 120 fps 320 x 180 x 120 fps	640 x 360 x 240 fps 320 x 180 x 240 fps	1280 x 720 x 120 fps 640 x 360 x 120 fps	1280 x 720 x 240 fps 640 x 360 x 240 fps
Network Access	Web Viewer (1:1)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio			
	3G Mobile Viewer (1:1)		Live, Search, PTZF, Two Way Audio			
	Multi-sites monitoring software (1:n)		Live, Search, Backup, PTZF, Remote Setup, Remote Upgrade, Two Way Audio			
Features	DLS (Day Light Saving)		Yes			
	Internal Beep		By Alarm, Motion, Video Loss, HDD error			
	Firmware Upgrade		USB flash drive, remote network			
	NTP		Yes			
Power	Power Supply Voltage		12 Vdc, 5 A		100~120 Vac / 200~240 Vac, 50/60 Hz, 280 W	
Allowable Operating Temperature			41 °F - 104 °F (5 °C ~ 40 °C)			
Allowable Operating Humidity			0 - 90 % RH			
Weight / Gross weight			9 lb (4.1 kg) / 13.6 lb (6.2 kg)		15.0 lb(6.80 kg) / 19.8 lb (8.98 kg)	
Dimension (*w* x *h* x *d*)			14.96" x 13.38" x 2.83" (380 mm x 340 mm x 71.9 mm)		17.00" x 16.92" x 3.86" (431.8 mm x 429.8 mm x 98.0 mm)	

APPENDIX A
DVR Compatible Hard Disk Drives

Table 28. Compatible HDDs

Manufacturer	Model	Capacity	Speed	Cache
Seagate®	ST32000641AS (Barracuda XT)	2 TB	7200 RPM	64 MB
	ST31000526SV (Surveillance)	1 TB	7200 RPM	32 MB
	ST31000524AS (Barracuda)	1 TB	7200 RPM	32 MB
	ST31000340SV (Surveillance)	1 TB	7200 RPM	32 MB
	ST31000526SV	1 TB	7200 RPM	32 MB
	ST31000528AS (Barracuda)	1 TB	7200 RPM	32 MB
	ST31000322CS	1 TB	5900 RPM	8 MB
	ST31000524AS	1 TB	7200 RPM	32 MB
	ST3500411SV (Surveillance)	500 GB	7200 RPM	16 MB
	ST3500413AS (Barracuda)	500 GB	7200 RPM	16 MB
	ST3500830SCE	500 GB	7200 RPM	8 MB
	ST3500418AS (Barracuda)	500 GB	7200 RPM	16 MB
	ST3500410AS (Barracuda)	500 GB	7200 RPM	16 MB
	ST3500312CS	500 GB	5900 RPM	8 MB
	ST500DM002	500 GB	7200 RPM	16 MB
	ST3250410AS (Barracuda)	250 GB	7200 RPM	16 MB
	ST3250310SV (Surveillance)	250 GB	7200 RPM	8 MB
	ST3250318AS (Barracuda)	250 GB	7200 RPM	8 MB
	ST3250312CS	250 GB	5900 RPM	8 MB
	ST3500312CS	250 GB	5900 RPM	8 MB
	ST3160815AS (Barracuda)	160 GB	7200 RPM	8 MB

APPENDIX A: DVR COMPATIBLE HARD DISK DRIVES

Manufacturer	Model	Capacity	Speed	Cache
HITACHI®	HDS722020ALA330	2 TB	7200 RPM	32 MB
	HDS722020ALA330	2 TB	7200 RPM	32 MB
	HDS721010KLA330	1 TB	7200 RPM	32 MB
	HDT721010SLA360	1 TB	7200 RPM	16 MB
	HDS721010CLA332	1 TB	7200 RPM	32 MB
	HDS721050CLA362	500 GB	7200 RPM	16 MB
	HDP725050GLA360	500 GB	7200 RPM	16 MB
	HDS721032CLA362	320 GB	7200 RPM	16 MB
	HDS721025CLA382	250 GB	7200 RPM	8 MB
	HDT721025SLA380	250 GB	7200 RPM	8 MB
	HDP725025GLA380	250 GB	7200 RPM	8 MB
Western Digital®	WD20EADS	2 TB	7200 RPM	32 MB
	WD20EURS	2 TB	7200 RPM	64 MB
	WD10EVVS	1 TB	7200 RPM	8 MB
	WD10EACS	1 TB	7200 RPM	16 MB
	WD10EURS-630AB1	1 TB	7200 RPM	64 MB
	WD10EALX-009BA0	1 TB	7200 RPM	32 MB
	WD5000AACS	500 GB	7200 RPM	16 MB
	WD5000AAKX-001CA0	500 GB	7200 RPM	16 MB
	WD2500AAKX	250 GB	7200 RPM	16 MB
	WD2500AVVS	250 GB	7200 RPM	8 MB
	WD2500AAKX-001CA0	250 GB	7200 RPM	16 MB
	WD2500AAKS	250 GB	7200 RPM	16 MB

If you are installing multiple HDDs in your DVR, the HDDs you install must the same brand and model. If the models are different, the DVR might not recognize an HDD, or could malfunction.

APPENDIX B
Device Log

The following table is provided as an aid to setting up and logging the analog devices on your system.

Analog Camera Device Summary

Channel	Camera Model	Audio (Y/N)	Location
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

APPENDIX C
DVR Setup Menu Components

The following lists show the components in each SETUP menu tab (submenu).

DISPLAY

- OSD
- OSD CONTRAST
- SEQUENCE
- SEQUENCE DWELL TIME
- CHANNEL
    - NAME
    - COVERT
    - BRIGHTNESS
    - CONTRAST
    - HUE
    - SATURATION
    - VIDEO OUTPUT

RECORD

- CHANNEL
    - RESOLUTION
    - FRAME RATE
    - QUALITY
    - RECORDING
    - SENSOR RECORDING
    - PRE RECORD
    - POST EVENT RECORD
    - AUDIO
    - SCHEDULE

DEVICE

- ALARM OUT
    - SENSOR IN
    - MOTION ON
    - VIDEO LOSS ON
    - ALARM DURATION
    - ERROR ALARM

- CONTROLLER & PTZ
  - CHANNEL
  - NAME
  - SPEED
  - ID
- SPOT OUT
  - SPOT OUT 1
  - SPOT OUT 2
- CHANNEL
  - MOTION ZONE
  - MOTION SENSITIVITY
- KEY TONE
- REMOTE CONTROLLER ID
- SENSOR
  - TYPE

STORAGE

- OVERWRITE
- DISK FORMAT
- DISK INFO
- RECORDING LIMIT
- S.M.A.R.T

SYSTEM

- DVR-ID
- DESCRIPTION
- LANGUAGE
- DATE FORMAT
- SET DATE & TIME
  - DAYLIGHT SAVING
  - SET DATE & TIME
- CLIENT ACCESS
- NTP
- SEND EMAIL

SECURITY

- USER AUTHENTICATION (ADMIN, NETWORK, USER1, USER2, USER3)
- USER PASSWORD
- PLAYBACK AUTHORITY

APPENDIX C: DVR SETUP MENU COMPONENTS

NETWORK

- PORT
- NETWORK AUDIO PORT
- WEB PORT
- NETWORK TYPE (DHCP, LAN)
- DDNS
- NETWORK STREAM

CONFIG

- SAVE SETUP TO A USB
- LOAD SETUP FROM A USB
- LOAD DEFAULT
- LOAD FACTORY DEFAULT
- SOFTWARE UPGRADE

QUICK SETUP

- USE QUICK SETUP
  - INPUT DESIRED DAYS
- CUSTOMER SETTINGS
  - RESOLUTION
  - FRAME RATE
  - QUALITY
  - RECORDING
  - DAYS TO RECORD